Army Training Support Center
Ft. Eustis, Virginia

Army Acceptance Criteria For Combined Arms Products for Distributed Learning (CAPDL) Courseware

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Army Acceptance Criteria for CAPDL Courseware

Purpose: The purpose of the **Army Acceptance Criteria for CAPDL Courseware** is to specify quality control (QC) and quality assurance (QA) procedures that Contractors/Proponent Developers (hereafter referred to as developer) shall use to verify that courseware is SCORM compliant, meets playability requirements, and properly executes the proponent's instructional strategy prior to submission to the Government for technical acceptance testing. These criteria apply to courseware delivered to the Government under the Combined Arms Products for Distributed Learning contract in support of The Army Distributed Learning Program (TADLP). These criteria also apply to "in-house" Government developed TADLP courseware.

Organization:

Section 1 of this document is an Executive Summary.

Section 2 specifies procedures that developers shall use to determine compliance of SCORM courseware prior to delivery to the Government. Adherence with this process ensures that courseware is in accordance with Advanced Distributed Learning (ADL) Shareable Content Object Reference Model (SCORM) specifications and additional Army requirements as specified in the "Business Rules, Best Practices, and Examples for Army SCORM 2004 Conformant Courseware" document located at http://www.atsc.army.mil/tadlp/contractors/capdl/compliance/scorm_business_rules.asp.

Section 3 specifies courseware playability testing in the test environment of the target LMS that developers shall conduct prior to delivery to the Government to ensure courseware functions properly and correctly implements the proponent's instructional strategy as documented in the final approved Instructional Media Design Package (IMDP).

Section 4 describes the three phases of the government review process.

Appendices A-I provide detailed information on required test tools, testing procedures, and examples of documents required for submission to the Government.

SCORM Version: All references to SCORM and the SCORM specification will be the SCORM 2004 3rd Edition. The SCORM 2004 3rd Edition document suite is available from www.adlnet.org.

ADL Test Suite Software Version: All references to the Advanced Distributed Learning (ADL) Test Suite SCORM Conformance software will be the latest version posted on http://www.atsc.army.mil/tadlp/contractors/capdl/compliance/tools_scorm.asp at time of courseware delivery.

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1. Executive Summary

1.1 CAPDL Courseware Developer QC/QA Testing. Prior to submitting courseware deliverables to the Government for either acceptance or compliance verification, the developer shall perform SCORM and playability testing following the processes contained within this document. The developer shall employ quality assurance measures throughout the entire design and development process and conduct quality control testing to ensure the courseware meets its intended purpose(s) and is free from error prior to submitting to the Government. After successfully passing SCORM and playability testing, the developer shall provide to the Government deliverables in accordance with Attachment 3 of the BLDO Template 09 Mar 2009.

1.2 Government Acceptance Testing/Verification. The Army employs an incremental testing/verification process whereby courseware is reviewed for SCORM compliance and playability at certain points throughout the entire development phase. Testing/verification begins with the submission of a ‘wireframe’ with the IMDP that is a technical demonstration, sans actual course content, of the sequencing and navigation of the specific instructional design documented in the IMDP, followed by testing/verification of lessons/modules (to include all module tests, assessments, and exercises) as each lesson/module is developed, and ends with testing/verification of the final courseware package containing all lessons/modules, tests, assessments, and exercises.

- **IMDP Wireframe:** The Government will conduct functionality verification of the wireframes submitted with the IMDP. The wireframes must demonstrate proper execution of the proponent’s instructional strategy as shown in the course map in the IMDP (see section 3.2 for detailed requirements).
- **Lessons/Modules**: The Government will conduct **compliance testing/verification** of the lessons/modules and accompanying tests, assessments, and exercises as they are incrementally produced by the developer. At a minimum, the developer must correct all critical errors identified during testing of lessons/modules in order to allow the Government to iteratively field individual lessons/modules throughout the development and delivery cycle. At the discretion of the proponent, other types of errors may require correcting before the Government is able to iteratively field a lesson/module. The developer shall correct all non-critical deficiencies identified by the proponent and not previously corrected prior to resubmission of these lessons/modules as part of the final course package. Additionally, the developer is expected to apply lessons learned from testing of the initial module submission(s) to subsequent development.
- **Final Courseware**: The Government will conduct an **acceptance review** of the final courseware to include all lessons/modules, tests, assessments, and exercises to verify SCORM compliance and proper courseware functioning to

include proper implementation of the proponent’s instructional strategy on the targeted LMS.

2. SCORM Compliance Testing Process

2.1 Criteria for SCORM Compliance Testing. The criteria developers shall use for testing of SCORM courseware deliverables is summarized below. All criteria apply to all deliverables as identified in Figure 2.1-1. The instructions for installing the ADL Test Suite are located in the "readme.htm" file that accompanies the ADL Test Suite software. All other Army testing tools are contained in self-extracting .zip files.

- SCOs will be tested to verify the ability to communicate with the 'target' Learning Management System (LMS) using the ADL Test Suite Content Package Conformance Test. The ADL Test Suite software is located at http://www.atsc.army.mil/tadlp/contractors/capdl/compliance/tools_scorm.asp.
- The manifest file and all metadata files will be validated for SCORM compliance using the ADL Test Suite Content Package Conformance Test.
- SCO metadata and Content Organization metadata files will be tested to determine if they contain Army required metadata tags using the Army Metadata Editor, located at http://www.atsc.army.mil/tadlp/contractors/capdl/compliance/tools_scorm.asp . Refer to the Army Business Rules for SCORM 2004 courseware.
- Physical files will be compared to the resource files referenced on the manifest to determine a "complete" (or "incomplete") manifest and all URLs in the manifest that are outside of the local domain (external links) will be verified to exist using the Resource Validator testing tool located at http://www.atsc.army.mil/tadlp/contractors/capdl/compliance/tools_scorm.asp.
- SCOs will be tested to determine if they contain Army required SCORM Run-Time API calls using the Army's Test Log Parser located at http://www.atsc.army.mil/tadlp/contractors/capdl/compliance/tools_scorm.asp. Refer to the Army Business Rules for SCORM 2004 courseware.

DELIVERABLE TEST	LESSON/MODULE	FINAL PRODUCT
Content Package Conformance Test (ADL Test Suite)	X	X
SCO Run-Time Environment Conformance Test (ADL Test Suite)	X	X
Army Run Time Validation	X	X
Army Metadata Validation	X	X
Resource Validator	X	X

Figure 2.1-1 SCORM Testing Requirements Matrix

All log files generated by the required tests should be named as identified in Figure 2.1-2.

Required SCORM log files:

1. ADL Test Suite Conformance Test Suite log files	
	• The ADL Test Suite Content Package Conformance Test log file(s) zipped into a file with “CP_RTE” in the zip file name.
2. Army Validate Run Time log file	
	• Results from the Army Multi-Log Parser program saved to a file named "ValidateRTE.htm"
3. Army Validate Metadata log file	
	• Results from the Batch Validate test of the Army Metadata Editor saved to a file named "ValidateMD.doc “
4. Army Resource Validator test program log files	
	• Resource Validator log files named "manifest_files_found.html", "manifest_files_missing.html", "packaged_files_found.html", and "packaged_files_missing.html"

Figure 2.1-2 Developer submitted log file table

2.2 Developer Pre-testing Preparation

2.2.1 The developer shall determine SCORM requirements according to the Delivery Order in order to apply the appropriate testing process.

2.2.2 The developer shall ensure a PC workstation is configured for testing with the ADL Test Suite software and the Army testing tools IAW Appendix A.

2.2.3 The developer shall ensure that the courseware being prepared for testing is the most current version of the courseware that will be sent to the Government as a deliverable.

2.3 Package Interchange File (PIF) Count. The Government acknowledges the significant file management challenges introduced by SCORM requirements and the potential for errors in file omission or inclusion when creating the SCORM PIF file. To minimize this risk, the developer shall perform the following procedure to ensure that the SCORM package submitted to the Government contains all of the files used to generate the log files produced during the SCORM compliance testing process.

2.3.1 After creating a SCORM PIF file, the developer shall use PKZIP or WinZip to identify the number of files in the PIF.

2.3.2 The developer shall record the number of compressed files to compare that number to the number of total files shown at the end of the "packaged_files_missing.html" log file produced by the Resource Validator.

- If these two quantities are not identical, a configuration management error has likely occurred. The developer shall retest courseware as necessary upon the addition or deletion of files in the package. Adding/deleting files in the package can impact compliance with SCORM requirements.

NOTE: The Resource Validator does not detect hidden files in the content package. This can cause your Zip file count to be different from PIF file count. Any file that has the file property attribute of "Hidden" will not be displayed. Any file that is required for the courseware should not have the attribute of "Hidden" selected. Any file that is not required for the courseware should not be included in the content package.

If these numbers are identical then it is reasonable to assume that the correct courseware files have been placed in the SCORM PIF file.

2.4 SCORM Compliance Testing Process

2.4.1 The following tests will be conducted in the order shown below. Only after successfully passing each of these tests shall the developer submit the corresponding log files and the courseware PIF to the Government for compliance or acceptance review. This process is depicted at Figure 2.4.

2.4.1.1 ADL Content Package Conformance Test (see Appendix F for instructions)

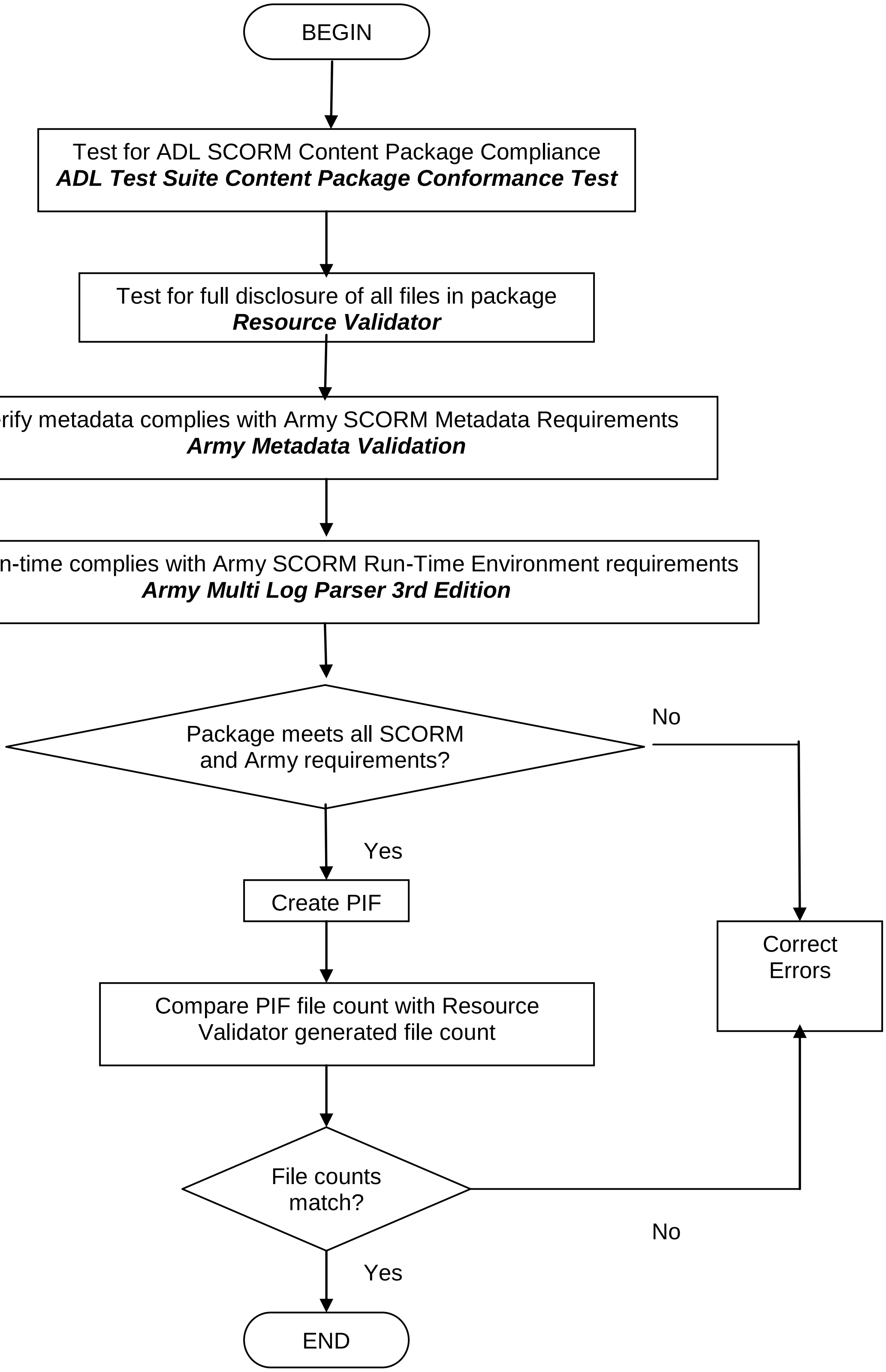
2.4.1.2 Resource Validator (see Appendix G for instructions)

2.4.1.3 Army Metadata Validation (see Appendix H for instructions)

2.4.1.4 Army Run-Time Validation (see Appendix E for instructions)

2.4.1.5 PIF Check (see section 2.3 for more information on PIF/file counts)

Figure 2.4 SCORM Compliance Testing Process


BEGIN
Test for ADL SCORM Content Package Compliance
ADL Test Suite Content Package Conformance Test
Test for full disclosure of all files in package
Resource Validator
Verify metadata complies with Army SCORM Metadata Requirements
Army Metadata Validation
Verify run-time complies with Army SCORM Run-Time Environment requirements
Army Multi Log Parser 3rd Edition
Package meets all SCORM and Army requirements?
No
Yes
Create PIF
Correct Errors
Compare PIF file count with Resource Validator generated file count
File counts match?
No
Yes
END

3. DL Courseware Playability Testing

3.1 General Requirements. Developers shall conduct courseware playability testing in accordance with the procedures in this section and associated references **using the intended Learning Management System (LMS) or Learning Content Management System (LCMS) that the course will be fielded on. The courseware must pass all playability checks** prior to submitting for Government acceptance.

3.2 IMDP Wireframe Test Requirements. Developers shall test the wire-frame, a copy of which is to be provided to the Government along with the IMDP, to verify that it executes the Simple Sequencing and Navigation (SS&N), course/module/lesson flow and course map as documented in the IMDP. For more information on the wire-frame, see the Wire-Frame Development Process section of "Business Rules, Best Practices, and Examples for Army SCORM 2004 Conformant Courseware" document.

3.2.1 In order to test the functionality of a wire-frame's SS&N, the wire-frame must be loaded into the designated LMS or LCMS test area, and **all** of the varying instructional paths laid out in the course/module/lesson flow diagram and the course map must be exercised. Wire-frame functionality requirements are satisfied when all student progress paths are demonstrated via multiple enrollments and each progress path is verified as correct based on student completion data recorded on the LMS or LCMS.

3.2.2 The developer should be able to determine from the course/module/lesson flow diagram and course map whether or not the wire-frame is behaving in accordance with the intent of the course's instructional design. The developer shall test every significant path through the courseware in order to validate the SS&N. Figure 3.2 shows a generic sample course/module/lesson flow diagram. Course/module/lesson flow diagrams shall include the actual titles of the SCOs contained in the courseware/wire-frame.

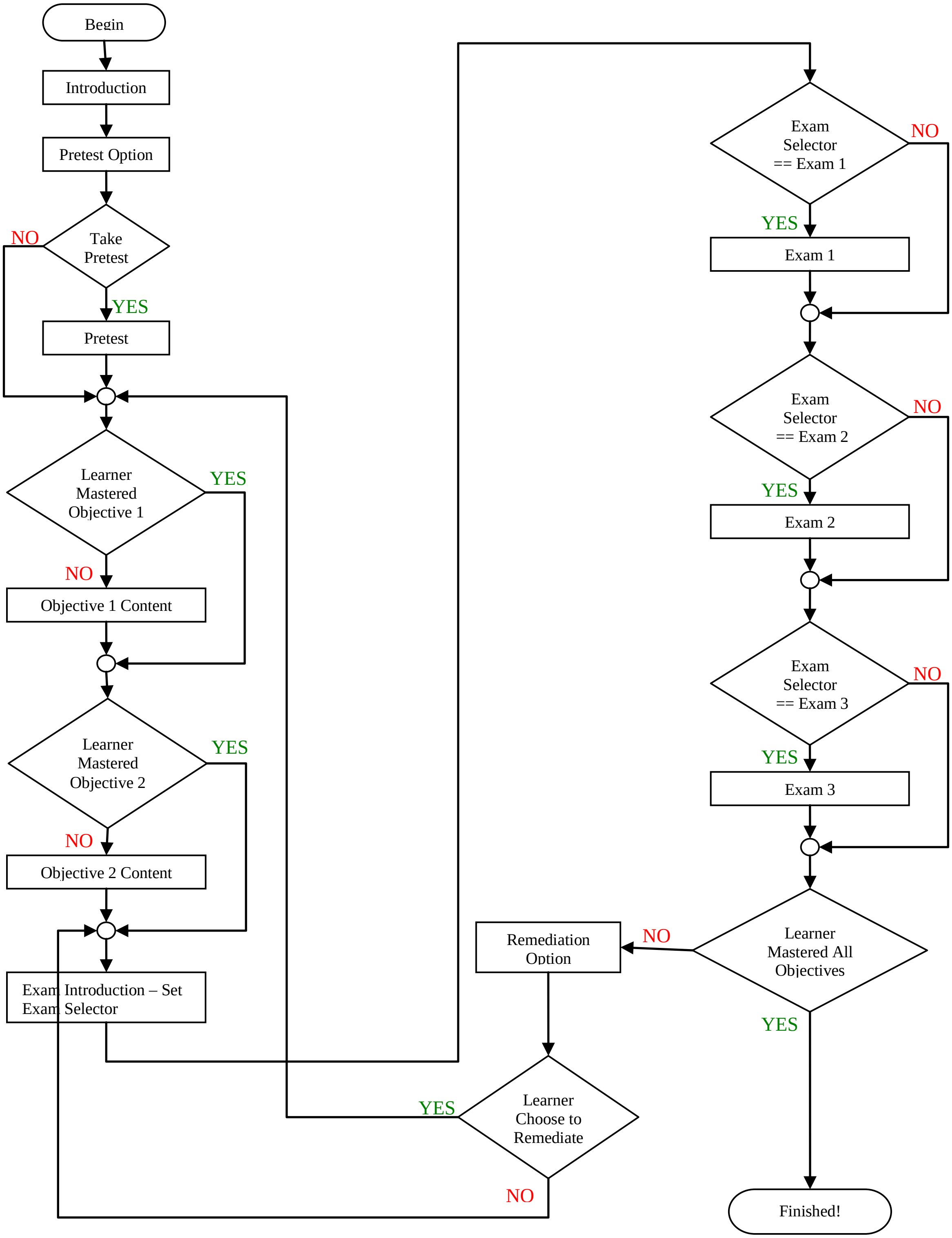


Figure 3.2 Sample course/module/lesson flow diagram

3.3 Developer Pre-Testing Preparation. The developer shall ensure that the courseware being prepared for testing is the most current version of the courseware that will be sent to the Government as a deliverable.

The developer shall construct the course map and course/module/lesson flow diagram, a copy of which is to be provided to the Government, to test the wire-frame and courseware. The wire-frame shall undergo the same playability testing as the courseware.

The developer shall design easy-to-read answer keys, including at least the question and the correct answer(s), a copy of which is to be provided to the Government, for review of all graded assessments, checks-on-learning, simulations, and practical exercises.

3.4 Lesson/Module Incremental and Final Courseware Playability Testing. Courseware playability reviews for all incremental and final deliverables shall verify that the courseware functions as intended, and includes, but is not limited to the following: verification of proper functioning of all courseware navigation and instructional features (e.g., navigation buttons, video, audio, animation, etc.); accurate scoring of all learner performance measurement instruments/checks (e.g., checks-on-learning, practical exercises, simulations, and student examinations); 508 compliance in accordance with the DO; and passage of the correct score, completion status, and success status to the LMS or LCMS. Courseware must "roll-up" properly on the LMS. Playability testing for the longest learning path must span more than one day to verify that the courseware operates under anticipated usage conditions (as a student would generally take more than one day to complete a content package.) Examples of required instructional strategy scenarios that must be tested are provided in Table 3-4.

3.4.1 Lesson/Module Incremental Courseware Playability Verification. The developer shall load and configure the courseware on the test environment of the intended LMS or LCMS that the courseware will be fielded on and perform courseware playability testing on web version 1 on a PC configured to the DTF Student Workstation Configuration specifications.

3.4.2 Final Courseware Playability Verification. The developer shall load and configure the courseware on the test environment of the LMS or LCMS that the courseware will be fielded on and perform courseware playability testing on all web versions and the CD-ROM version. The developer shall conduct developer playability testing on a PC configured to the DTF Student Workstation Configuration specifications (web version only) and on a baseline home computer configuration (web and CD-ROM version).

Table 3-4 – Example of Required Instructional Strategy Scenarios that Must Be Tested

Instructional Strategy for a package containing three Phase/Modules: Mastery Phase/Module level pretest, branching within lesson is based on learner performance in checks on learning, two diagnostic mastery Phase/Module level posttests with one attempt limit for each, remediate back to failed objectives within lesson.	
Sequencing and Navigation Scenarios Requiring Testing:	**Scenario 1:** Pass the pretest for Module 1; ensure learner is taken to pretest of module 2. Pass pretest and ensure learner is taken to pretest for module 3. Pass module 3 pretest and ensure learner is taken to module 4 (Capstone Exercise). Once Capstone Exercise (CE) is completed verify successful completion and proper credit in transcript.
	Scenario 2: Fail the pretest for module 1; ensure learner is taken to module 1 content; complete content and pass posttest 1; ensure learner is taken to pretest for module 2. Repeat this same process for modules 2 and 3. After passing module 3 posttest 1 ensure learner is taken to CE. Once CE is completed verify successful completion and proper credit in transcript.
	Scenario 3: Fail the pretest for module 1; ensure learner is taken to module 1 content; complete content and fail posttest 1 and ensure learner is remediated back through the module 1 content and once content is completed learner is taken to posttest 2 for module 1 which is then passed. Then, ensure learner is taken to pretest for module2. Repeat this process for modules 2 & 3. After passing module 3 posttest 2 ensure learner is taken to Capstone Exercise. Once CE is completed verify successful completion and proper credit in transcript
	Scenario 4: Fail pretest for module 1; ensure learner is taken to module 1 content; complete content and fail posttest 1 and ensure learner is remediated back through the module 1 content and once completed is taken to posttest 2 for module 1 which is then also failed. Verify that learner was 'kicked out' of the course and transcript reflects unsuccessful completion.
	Scenario 5: Pass pretest for module 1 and ensure learner is taken to module 2 pretest and then the process used for Scenario 4 is applied to module 2.
	Scenario 6: Pass pretest for module 1 and 2 and fail pretest for module 3. Then apply testing process under Scenario 4 for module 3.

3.5 The developer shall use the following documents for guidance in loading the content and setting up the offerings for both the Wireframes and Lesson/Module/Final Courseware testing and playability verification when Saba is the intended LMS: Saba Content Loading Guide 093009.docx , Saba Content Offering Guide 100509.docx and Saba_CVS_Course_Offering_Setup_guide_using_sequencing_paths.doc. These documents can be found on DLKN in the Courseware Testing COP in the Acceptance Criteria 2004 3rd Ed folder. For courseware that will be fielded on Blackboard, please contact the administrator for that Blackboard system for loading and setup instructions.

3.6 The Courseware Playability Checklist, shall be completed and submitted to the Army along with the SCORM log files. A detailed explanation of the required playability testing process, as well as instructions for completing the Courseware Playability Checklist is available in the CAPDL Technical Functionality Testing Guidance document, available at http://www.atsc.army.mil/tadlp/contractors/capdl/compliance/acceptance_criteria.asp,

3.7 Critical Errors. In the evaluation of Army courseware, knowledge of the types of problems and errors encountered/identified is required to determine their criticality rating in the decision to field/not field the courseware. The Courseware Errors Criticality Matrix, available at http://www.atsc.army.mil/tadlp/contractors/capdl/compliance/acceptance_criteria.asp, was developed to provide a standardized tool to assist courseware developers, proponents, and testers in the determination of criticality ratings. This document is not an all-inclusive list of errors and their criticality ratings, and it is subject to updates as necessary.

3.8 Section 508 Verification

3.8.1 Courseware must meet the standards specified in Section 508 of the Rehabilitation Act, Title 29 – Labor, Chapter 16 – Vocational Rehabilitation and Other Rehabilitation Services, Section 794d – Electronic and Information Technology. Section 508 law requires all federal agencies to provide access to electronic and information technologies (EIT) for disabled individuals. Law states that..."agencies must provide employees and members of the public who have disabilities access to electronic and information technology that is comparable to the access available to employees and members of the public who are not individuals with disabilities."

3.8.2 To ensure content must meet Section 508 standards, the developer must:

- Design content to meet all standards for Software applications and operating systems and Web-based Intranet and Internet Information and applications as stated in TP 350-70-12.

- Test and validate your content using any Section 508 validation and reporting tool

- Provide written documentation identifying which checkpoints were met

- Package and include Section 508 test logs with the content submission package

4. Government Review Process

4.1 Instructional Media Design Package. The Government will review the Instructional Media Design Package (IMDP) for acceptance. This includes acceptance testing of the wireframe submitted with the IMDP. After approval of the IMDP and wireframe, the developer may proceed with development of the IMI content.

4.2 Lessons/Modules. The Government will conduct **compliance review** and SME reviews on the content submitted at the learning event level specified in the DO and accompanying learner performance measurement instruments/tests to include checks-on-learning, practical exercises and tests. The Government will perform technical reviews until the content has no critical technical conformance faults and the proponent considers the courseware adequate for validation and limited incremental fielding. The developer shall correct all critical technical conformance faults and apply lessons learned from the developer's testing of the content submission to subsequent development. In addition, the developer shall correct any deficiencies found during validation prior to final submission.

4.3 Final Courseware. After the validation process (and correction of all faults identified during validation and previous Government reviews), the developer shall submit the complete corrected courseware for final approval. Based on the courseware usage indicated in the DO, the developer shall provide appropriate versions of the final web-based courseware and the CD-ROM version of the courseware. The Government will conduct **acceptance testing reviews** on the final courseware and supporting documentation (e.g., SCORM Test Logs; Playability Checklists with Student Transcript screenshots; lesson flow diagrams, etc) to include all lessons/learning events and learner performance measurement instruments/tests to include check-on-learning, practical exercises and tests. The final accepted courseware will replace the incrementally delivered content and be given separate unique version identifier(s).

APPENDIX A – Workstation Configuration

Before you begin, the testing computer workstation should have at least the following:

- Windows Vista or Windows 7 operating system
- 2GB RAM
- Available hard drive space to load the entire course onto the local drive
- Internet access
- WinZip software
- HTML Editor
- Word Processing software
- Sufficient processing speed for display and operation of courseware

NOTE: It is assumed that the testing computer will only be used for testing SCORM conformant courseware and not be used for any other purpose.

Create a folder on the testing computer named "ScormLogFiles" to store the testing log files created during the testing process.

Create a folder on the testing computer named "Testing_Tools" to store the files for the Testing software used during SCORM validation testing.

Uninstall all versions of Java from the testing computer. Restart.

Download and install the latest version of the Java Runtime Environment (JRE), (currently Version 6 Update 16) from http://java.sun.com/javase/downloads/index.jsp. Restart.

Download and install the SCORM 2004 3rd Edition Conformance Test Suite v1.0.2 software from http://www.atsc.army.mil/tadlp/contractors/capdl/compliance/tools_scorm.asp .

Download the following from the ATSC Web site (http://www.atsc.army.mil/tadlp/contractors/capdl/compliance/tools_scorm.asp) into the Testing_Tools folder:

- Microsoft XML Core Services
- Resource Validator
- Metadata Editor/Tester
- Manifest Auditor
- Army Multi Log Parser 3rd Edition

Install the Resource Validator software using the following instructions:

a). Unzip the Microsoft XML Core Services (MSXML) files into a folder named MSXML in the Testing_Tools" folder.

b). In the MSXML folder, double click on "setup\msxml.msi" file to install the Microsoft XML Core Services. Follow the prompts. In Windows XP "Choose Setup Type", click "Install".

c). Unzip the Resource Validator files into a folder named "Resource_Validator" in your "Testing_Tools" folder.

NOTE: This directory is where folders containing the Resource Validator log files will be created during testing.

d). Find the file "\Testing_Tools\Resource_Validator\Resource Validator.exe".

e). Create a shortcut to this program on the desktop by performing the following:

- Position Windows Explorer less than full screen so desktop can be seen.
- Right click and drag, then release: Right click on the "Resource Validator.exe" file and drag to the desktop. Then Release. Click on "Create Shortcut(s) here".
- When directed to launch the program later in the instructions, double click on this icon.

f). Find the Resource Validator directory, "\Testing_Tools\Resource_Validator\".

g). Create a shortcut to this directory containing the log files by performing the following:

- Position Windows Explorer less than full screen so desktop can be seen.
- Right click and drag, then release: Right click on the "Resource Validator" directory and drag to the desktop. Then Release. Click on "Create Shortcut(s) here".
- When directed to open the log files, double click on this icon for quick access to the files.

Unzip the Metadata Editor files into a folder named "Metadata_Editor" in your "Testing_Tools" folder. Find the file "\Testing_Tools\Metadata_Editor\Metadata Editor.jar". Create a shortcut to this program on the desktop.

Unzip the Manifest Auditor files into a folder named "Manifest_Auditor" in your "Testing_Tools" folder. Find the file "\Testing_Tools\Manifest_Auditor\Manifest Auditor.jar". Create a shortcut to this program on the desktop.

Unzip the Army Multi Log Parser 3rd Edition files into a folder named "MultiLog_ Parser_3rd_Ed" in your "Testing_Tools" folder. Find the file "\Testing_Tools\ MultiLog_ Parser_3rd_Ed \LogParser.jar". Create a shortcut to this program on the desktop.

Change Internet Explorer setting to view only the latest version of a Web page and avoid previously viewed Web pages (important) as follows:

For Internet Explorer 6.0

- Launch Internet Explorer
- Click "Tools/Internet Options" from the menu
- In the Temporary Internet Files section, click on "Settings"
- Select "Every visit to the page"
- Click OK twice

For Internet Explorer 7.0

- Launch Internet Explorer
- Click "Tools/Internet Options" from the menu
- In the Browsing history section, click on "Settings"
- Select "Every time I visit the webpage"
- Click OK twice

NOTE: If your security settings prohibit this change, then skip.

Disable script debugging in Internet Explorer as follows: (Scripting errors are not addressed here.)

In Internet Explorer 6.0/7.0:

- Click on Tools/Internet Options from the menu
- Click on "Advanced" tab
- Select (click to show a check mark) "Disable script debugging"
- De-select (uncheck) "Display a notification about every script error"
- Click "OK"

NOTE: If your security settings prohibit this change, then skip.

Make the Status Bar visible in Internet Explorer (located at the bottom of the screen). From the Menu Bar, click View/Status Bar from the menu.

APPENDIX B – Understanding the ADL Test Suite

A key component of understanding SCORM and the Test Suite is the manifest file. This file is physically named "imsmanifest.xml". Every SCORM conformant courseware package has a file by this name in the root directory. This file is crucial to SCORM conformance. This file has all the content packaging data, navigation, sequencing, and prerequisite information. (Normally all other .xml files in the courseware root folder and subfolders are metadata files and will be tested for conformance as well.)

After launching the Test Suite, notice the testing options shown as follows:

Conformance Tests:

- Learning Management System (LMS) Conformance Test *–or- LMS test*
- Content Package Conformance Test *–or- CP test*

Utility Tests:

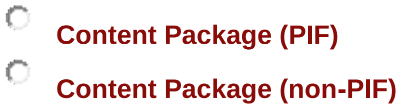
- Shareable Content Object (SCO) Run-Time Environment (RTE) Conformance Utility Test *–or- SCO RTE test*
- Manifest Utility Test *–or- Manifest test*

FIRST OPTION: The Learning Management System (LMS) Conformance Test (“LMS test”) is used to test an LMS for SCORM conformance. **This test is not used in the Acceptance Criteria test.**

SECOND OPTION: The Content Package Conformance Test (“CP test”) performs several variations of the available ADL Test Suite tests, including metadata testing and optionally, the SCO RTE testing. **This test is used in the Acceptance Criteria test.**

The CP test option validates the content packaging criteria for SCORM conformant courseware regarding the manifest and all metadata. The manifest will be tested for well-formness, validity against the proper controlling documents, ADL mandatory rules, extensions, and unidentified resources (referenced files will be tested for their existence). In addition, metadata and SCOs will be tested for conformance. Package Conformance can be achieved using this option.

CP test Options:
In the CP test, there are 2 choices displayed via radio buttons (either option may be used however using the “non PIF” option provides an advantage when applying corrections).



○ Content Package (PIF)

○ Content Package (non-PIF)

Package (non PIF) – (**This test is recommended since each file may be corrected and modified directly.**)

All files in the entire content package will be tested to include the manifest, metadata files, and SCOs.

Package (PIF) – (**This test may require multiple file modifications to correct a single file failure.**)

This option will test the entire content package as Package Interchange File, which is the SCORM package compressed in a PKZIP format. The entire package will be tested to include the manifest, metadata files, and SCOs. Note that the ADL test suite only supports the PKZIP 2.04g format and newer or different compression procedures may produce undesired results.

CP test operation:
The latest Army Multi-log parser is able to process ADL test suite log files produced when the SCO run time environment conformance test is run in series with the Content Package Conformance Test. This new process is described completely in Appendix E.

Advantages of running the “SCO RTE test” as a continuation of the “CP test” are:

- The Test Suite generates the SCO list during the parsing done during the CP test.
- The SCO RTE test log file is produced in the same directory as the CP test log file which means only one set of ADL test suite log files need to be gathered and submitted to the Army for Army testing.

The Army recommends that the CP test and the SCO RTE tests be run together to simplify ADL test suite log file submittal and processing.

CP test Summary:
The Army recommends using the abbreviated form of the Package (non PIF) option. This option validates the content packaging criteria for SCORM conformant courseware regarding the manifest and all metadata. The latest Army Multi-log parser is able to process ADL test suite log files produced when the SCO run time environment conformance test is run in series and this process is described in Appendix E.

THIRD OPTION: The Shareable Content Object (SCO) Run-Time Environment (RTE) Conformance Utility Test ("SCO RTE test") will actually launch and execute the SCO with the Courseware Tester choosing the learners path by clicking next (and previous) through the SCO. This ADL Test Suite option executes and intercepts the communication with the LMS. A log file is created of all programming function calls (API communication). This option tests one SCO or many SCOs. **This test is not used in the Acceptance Criteria test.**

Because of the following disadvantages of running this option independently, the Army recommends the "SCO RTE test" be executed as a continuation of the "CP test" described above:

- The Test Suite user must navigate to and select each launch file to build the SCO execution list for the SCORM package
- The Test Suite user must collect and submit multiple ADL Test Suite XML log files to satisfy the ARMY testing requirements.

FOURTH OPTION: The Manifest Utility Test ("Manifest test") only verifies that the IMS Manifest is conformant with the rules specified in the SCORM 2004 3rd Edition Content Package Application Profiles. Since this is also part of the "Content Package Conformance Test", **this test is not used in the Acceptance Criteria test.**

NOTE: The Content Package Conformance Test (Second Option above) tests all the metadata files in the Content Package.

APPENDIX C – Understanding the Resource Validator Software

This program ensures "reusability" designated by SCORM. SCORM requires that all files pertaining to a SCO be listed on the manifest file in the <file> tags contained within the <resource> tag.

The problem may not be apparent to a courseware manager because even if some files are omitted, the SCO will probably play normally in the Learning Management System. The problem occurs when a SCO is extracted from a courseware content package and the SCO is reused in another course.

For a SCO to be reused in another course, one SCO is selected from an existing manifest file, and only those files **that are listed on the manifest file** associated with that SCO will be extracted to the new package. If all the files are not listed on the manifest, then an incomplete SCO will be transferred.

Menu bar items:

File:

1. "Exit" – Close the Resource Validator program.

Logfiles:

1. "Generate HTML Logfiles" – Initially set to "On", designated by a checkmark. This option will cause the four log files to be generated during Manifest or Package Verify processing. Unchecking this option allows a faster execution time and saves disk space if persistence of verification results is not required.

Options:

1. "Check URLs" – Initially set to "On", designated by a checkmark. This option will validate URLs when there is an internet connection. If the workstation is not connected, then toggle this menu item "Off".
2. "TranslateURIs (Escaped Characters)" – Initially set to "Off", designated by no checkmark. This option translates escaped characters, e.g. "%20" = one space character and "%20%20" = two space characters. This option should be "On" when the manifest contains escaped characters in URIs (uniform resource identifiers). Escaped characters are sometimes created when the manifest generation is automated.

Messages:

1. "Show SCO resource link error" – Initially set to "On", designated by a checkmark. When turned "Off", this option will suppress the message that identifies a manifest's SCO resource that is not linked to a table of contents item. This message will repeat and become annoying when many SCOs are not linked. Since all reported file validation information is still valid, this option has been provided to suppress the link error message.

Manifest File Validation (Test 1):

Files listed on the manifest are compared with files found in the directory structure on the disk. Files that are found in the directory structure but not listed on the manifest are displayed in the RED "Undetected" box. URL addresses are also tested for existence and if the URL is not found, the URL will appear in the RED "Undetected" box.

Files as listed on the manifest	Files existing in the directories
<resource identifier="SCO1" type="webcontent" adlcp:scormtype="sco" href="safety/unit/index.html"> <metadata>…</metadata> <file href="safety/unit/index.html"/> <file href="safety/unit/page2.html"/> <file href="safety/unit/page3.html"/> <file href="safety/unit/page4.html"/> </resource>	📂safety 📂 unit index.html page2.html page4.html
Notice that "page3.html" is listed on the manifest but does not exist in the directories. This manifest is inaccurate.	

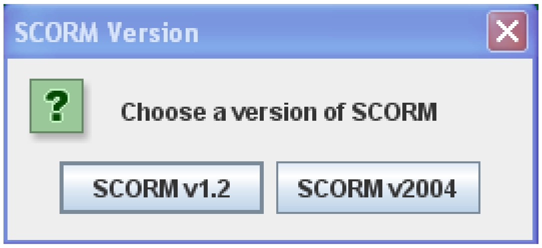
Package (Disk) File Validation (Test 2):

Files in the directory file structure are compared with files listed on the manifest. Files that are in the directory file structure and not listed on the manifest are displayed in the RED "(Incomplete Manifest) Packaged Files Missing" box.

Files as listed on the manifest	Files existing in the directories
<resource identifier="SCO1" type="webcontent" adlcp:scormtype="sco" href="safety/unit/index.html"> <metadata>…</metadata> <file href="safety/unit/index.html"/> <file href="safety/unit/page2.html"/> <file href="safety/unit/page3.html"/> <file href="safety/unit/page4.html"/ </resource>	📂safety 📂 unit index.html page2.html page3.html page4.html page5.html page6.html graphic.jpg
Notice that there are 3 files ("page5.html", "page6.html" and "graphic.jpg") in the courseware directories, but these three files are not listed on the manifest. This manifest is incomplete.	

APPENDIX D – Understanding the Metadata Editor Software

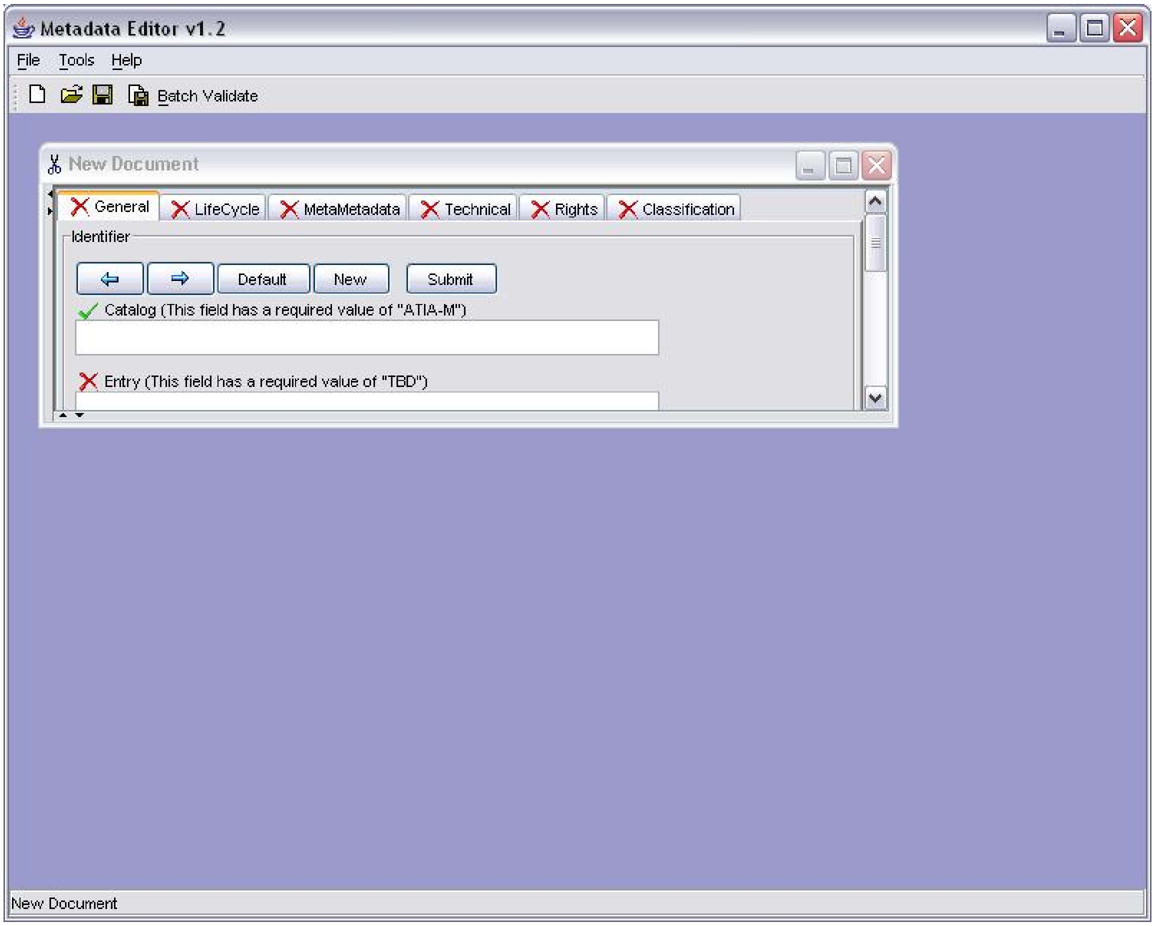
This program ensures conformance with the Army's metadata requirements. The Army's requirements are based upon the metadata specifications in the SCORM 2004 Content Aggregation Model document.



Choose a version of SCORM

Figure D1

Click on the "SCORM v2004" button.



✓ Catalog (This field has a required value of "ATIA-M")

✗ Entry (This field has a required value of "TBD")

Figure D2

Using the "Batch Validate" function of the Metadata Editor, multiple metadata files in a content package are examined and validated using the SCORM and Army metadata requirements. This process uses the "imsmanifest.xml" file from the content package to locate the metadata files in the package. NOTE: If the metadata files are not listed in the "imsmanifest.xml" file, this violates the requirement of full disclosure of all files in the content package. Any metadata files that have been excluded from the manifest file will not be checked.

Once the metadata files have been located, the contents of the metadata tags are compared to the SCORM allowable values and the Army specified values for conformance. The validation of character strings is done by verifying that the strings are an exact match, e.g. "SCORM2004" is not the same as "SCORM 2004". Any values that do not match to the SCORM and Army values are flagged as an error and are noted on the report screen for the batch validation.

APPENDIX E – Army Run-Time Validation (Log Parser)

The Army's Test Log Parser for SCORM 2004 3rd Edition is an application that summarizes information found in the logs produced by the Army's SCORM conformance testing applications. This summary of up to six different types of log files is compiled into a single, easy to understand, HTML document. Currently, the Test Log Parser is set up to examine these six different log files:

1. Resource Validator log file named "manifest_files_missing.html"
2. Resource Validator log file named "packaged_files_missing.html"
3. The ADL™ Test Suite Content Package Conformance Test log (Summary)
4. The ADL™ Test Suite Content Package Conformance Test log (Details)
5. The ADL™ Test Suite Sharable Content Object (SCO) Run-Time Environment Conformance Test log file
6. Log file from the Metadata Editor Batch Validation named “ValidateMD.doc”

Overview

The interface for the "Army Test Log Parser" has two main panels, the instruction panel on the left, and the configuration panel on the right. The configuration panel has seven separate boxes. You may need to use the scroll bar to see all seven, depending on your monitor's screen size and resolution. The first six of these boxes provide the user with the means of setting up a particular log to parse, and, where available, what rule to use when parsing the log. The seventh box is labeled "Output File". This box allows the user to determine the location of the summary file that will be produced by the "Army Test Log Parser" once the application is run. At the bottom of the configuration panel is the "Parse Logs" button which, when pressed, will tell the application to start processing the configured files and write the summary log to "Output File" location.

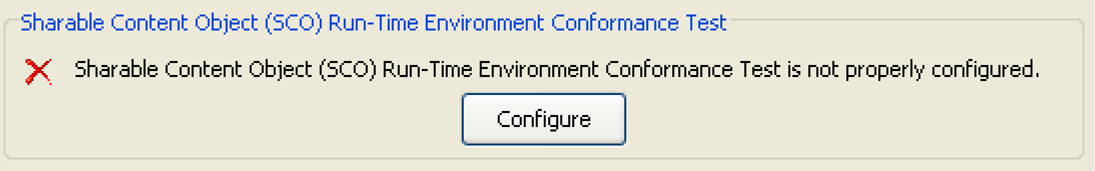
In order to produce the summary file, you must first configure one or more of the test log files. You may configure up to six different types of logs at once. The summary output file will include information about each of the test logs that have been configured. Configuring the "Output File" box is a simple matter of selecting a location for the summary output file that will be produced by the Log Parser application. You may choose to rename the file to something other than the default "ParsedOutput.html". The output of the Log Parser will be in ".html" format. Once you have configured one or more log files and the output file, you can run the Log Parser by pressing the "Parse Logs" button at the bottom of the configuration panel. The Log Parser will take a few moments to process all of the files that were configured, write the output file, and open the output file in a browser window. Once the application is finished, you may reconfigure the Log Parser to summarize another set of log files.

Parsing Logs using the Multi-Log Parser for SCORM 2004 3rd Edition

Log files generated by the testing tools can be parsed using the Multi-Log Parser and all detected errors will be reported in a parser log file. The following procedures may be conducted separately as needed or collectively throughout the testing process. Only the parser log file for the SCORM Run-time test must be submitted to the Army for review; there is no requirement to submit the parser log file for any other test log reviews.

Log Parser Procedure for Validating SCORM 3rd Edition RTE log files ONLY

1. Click the "Configure" button under the "Sharable Content Object (SCO) Run-Time Environment Conformance Test" section.

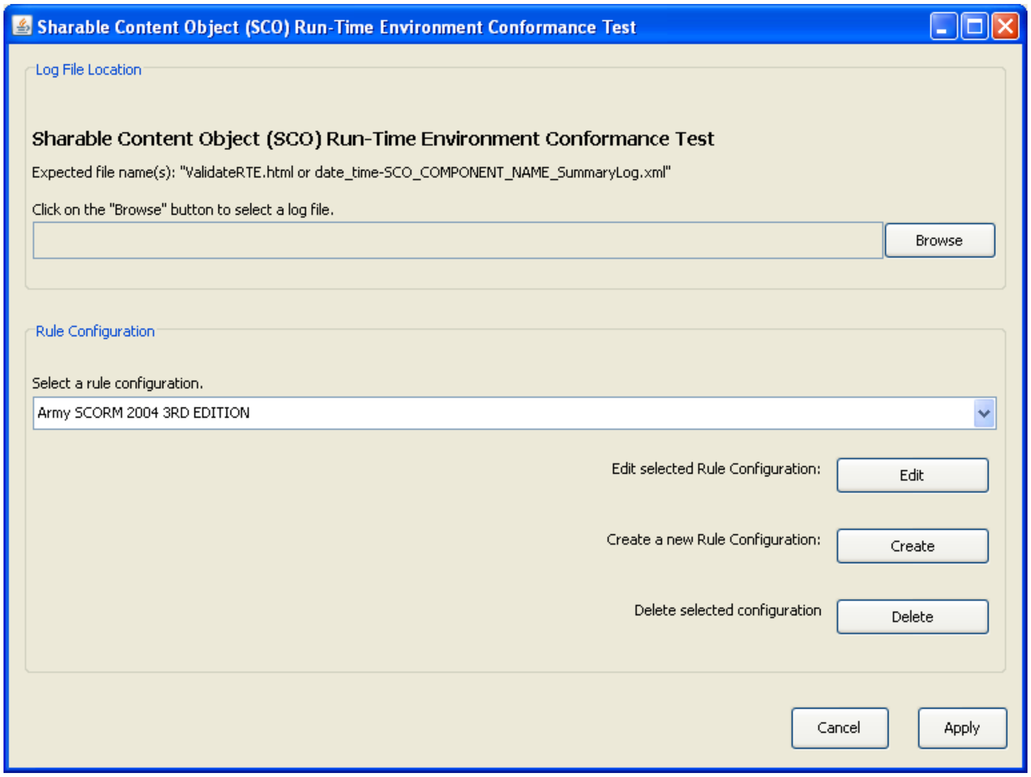


Sharable Content Object (SCO) Run-Time Environment Conformance Test

Sharable Content Object (SCO) Run-Time Environment Conformance Test is not properly configured.

Figure E-1

2. In the configuration window, click the Browse button and locate the summary log file for the Content Package test or the Run-time test. The log file will have “SummaryLog.xml” at the end of the filename.



Sharable Content Object (SCO) Run-Time Environment Conformance Test

Log File Location

Sharable Content Object (SCO) Run-Time Environment Conformance Test

Expected file name(s): "ValidateRTE.html or date_time-SCO_COMPONENT_NAME_SummaryLog.xml"

Click on the "Browse" button to select a log file.

Rule Configuration

Select a rule configuration.

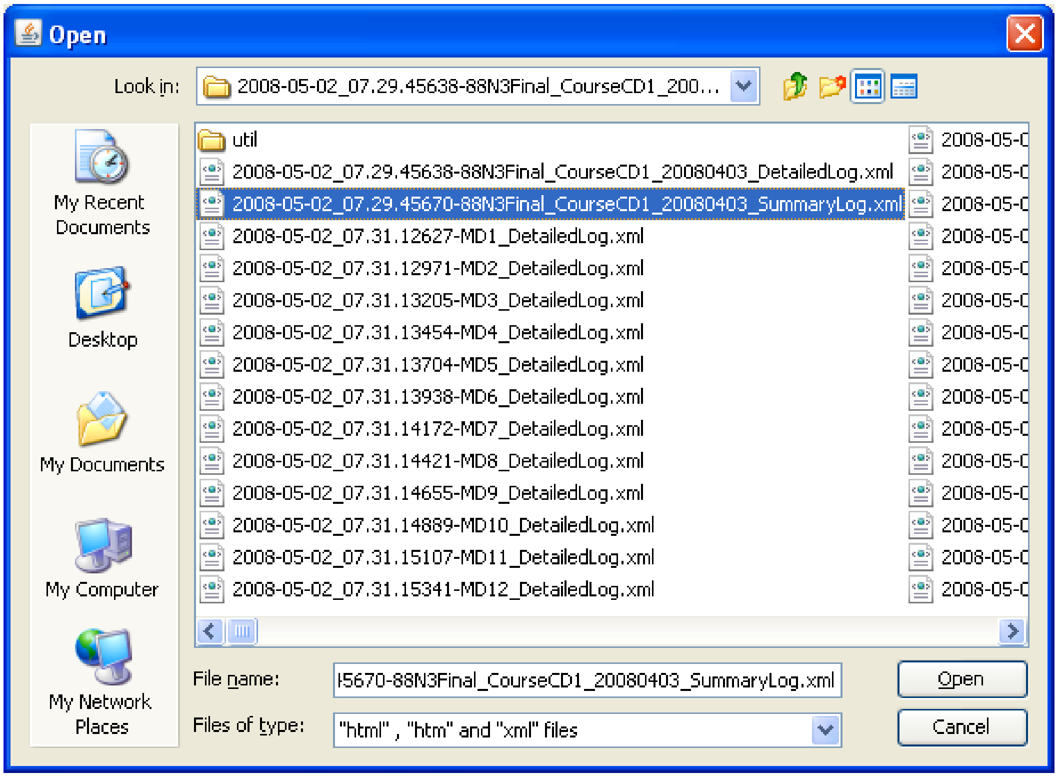
Army SCORM 2004 3RD EDITION

Edit selected Rule Configuration:

Create a new Rule Configuration:

Delete selected configuration

Figure E-2



Look in: 2008-05-02_07.29.45638-88N3Final_CourseCD1_200...

util
2008-05-02_07.29.45638-88N3Final_CourseCD1_20080403_DetailedLog.xml
2008-05-02_07.29.45670-88N3Final_CourseCD1_20080403_SummaryLog.xml
2008-05-02_07.31.12627-MD1_DetailedLog.xml
2008-05-02_07.31.12971-MD2_DetailedLog.xml
2008-05-02_07.31.13205-MD3_DetailedLog.xml
2008-05-02_07.31.13454-MD4_DetailedLog.xml
2008-05-02_07.31.13704-MD5_DetailedLog.xml
2008-05-02_07.31.13938-MD6_DetailedLog.xml
2008-05-02_07.31.14172-MD7_DetailedLog.xml
2008-05-02_07.31.14421-MD8_DetailedLog.xml
2008-05-02_07.31.14655-MD9_DetailedLog.xml
2008-05-02_07.31.14889-MD10_DetailedLog.xml
2008-05-02_07.31.15107-MD11_DetailedLog.xml
2008-05-02_07.31.15341-MD12_DetailedLog.xml

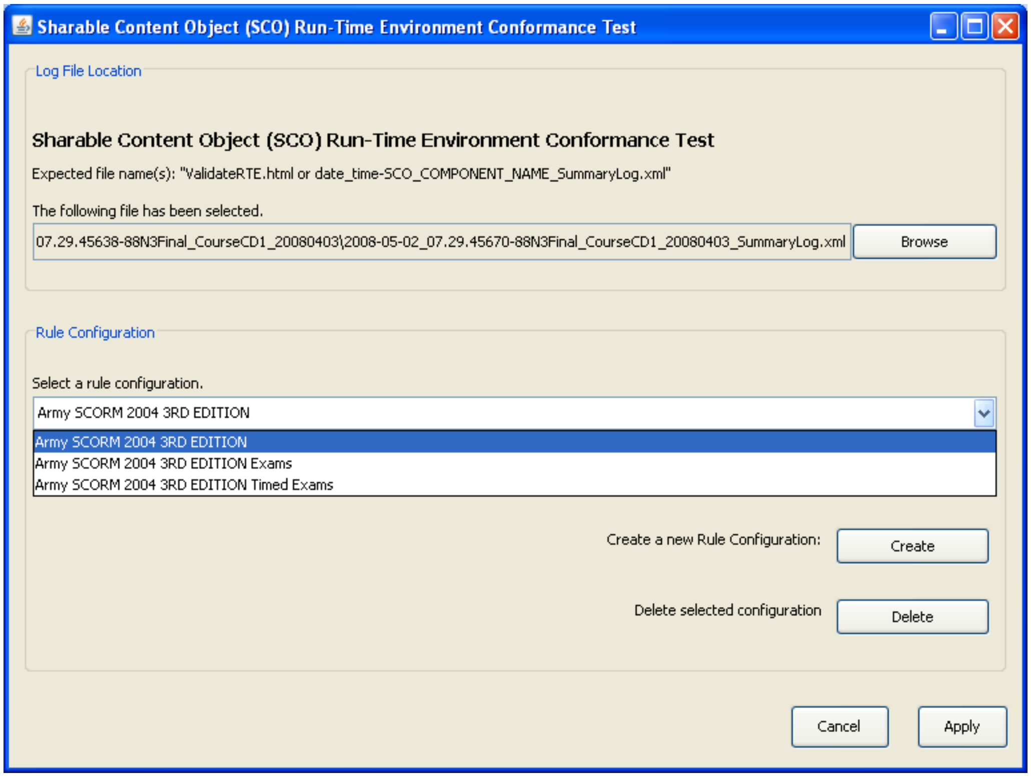
2008-05-0
2008-05-0
2008-05-0
2008-05-0
2008-05-0
2008-05-0
2008-05-0
2008-05-0
2008-05-0
2008-05-0
2008-05-0
2008-05-0
2008-05-0
2008-05-0
2008-05-0

File name: 15670-88N3Final_CourseCD1_20080403_SummaryLog.xml

Files of type: "html" , "htm" and "xml" files

Figure E-3

Under "Select a rule configuration", select "ARMY SCORM 2004 3RD EDITION" for content, “ARMY SCORM 2004 3RD EDITION Exams” for exams or “Army SCORM 2004 3RD EDITION Timed Exams” for timed exams. If you have a package containing content and exams, it will be necessary to parse this log file twice, once to check for content only requirements, and once to check for exam only requirements.



Sharable Content Object (SCO) Run-Time Environment Conformance Test

Log File Location

Sharable Content Object (SCO) Run-Time Environment Conformance Test

Expected file name(s): "ValidateRTE.html or date_time-SCO_COMPONENT_NAME_SummaryLog.xml"

The following file has been selected.

07.29.45638-88N3Final_CourseCD1_20080403\2008-05-02_07.29.45670-88N3Final_CourseCD1_20080403_SummaryLog.xml

Rule Configuration

Select a rule configuration.

Army SCORM 2004 3RD EDITION

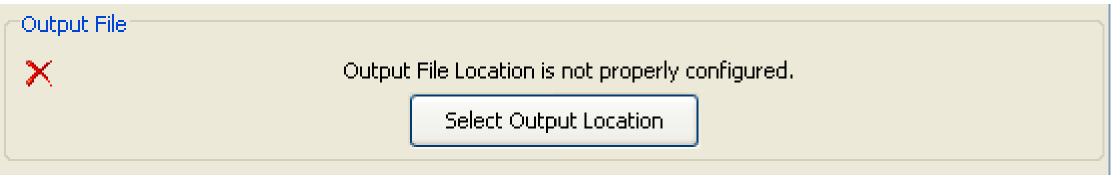
Army SCORM 2004 3RD EDITION
Army SCORM 2004 3RD EDITION Exams
Army SCORM 2004 3RD EDITION Timed Exams

Browse
Create a new Rule Configuration:
Create
Delete selected configuration
Delete
Cancel
Apply

Figure E-4

3. Click the "Apply" button. The configuration window closes automatically.

4. Click the "Select Output Location" button under the "Output File" section.



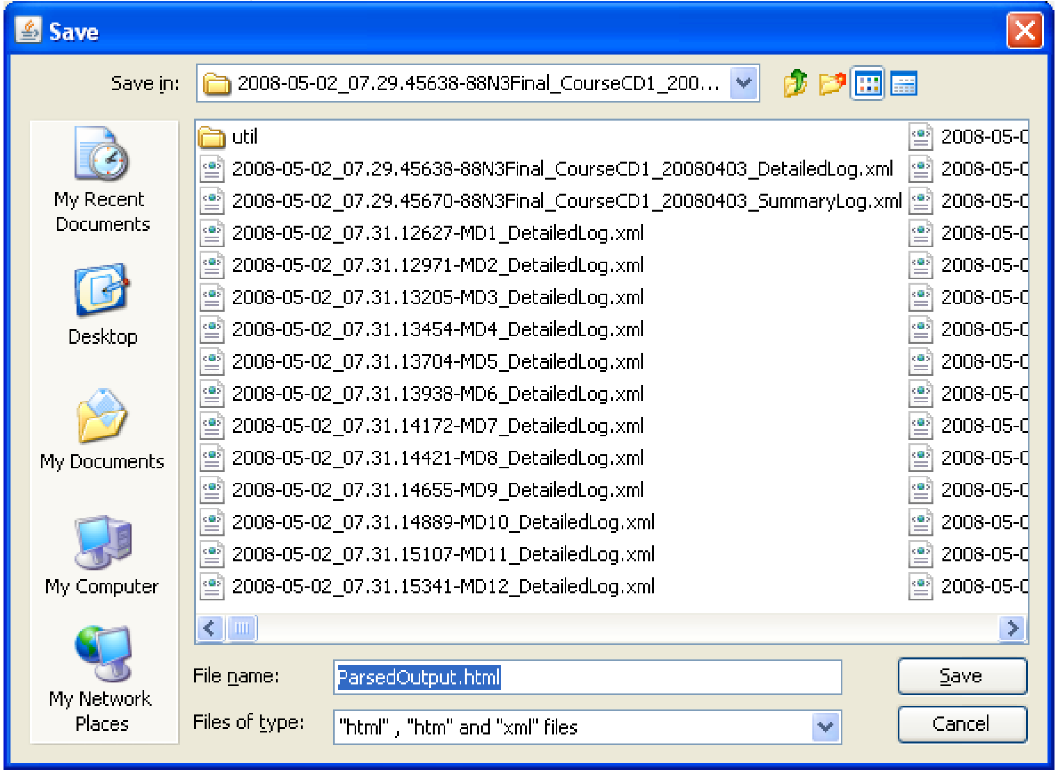
Output File

Output File Location is not properly configured.

Figure E-5

5. The default location for the output file is the folder where your SCORM RTE log files or SCORM Content Package Test log files are located. If this is not the location where the output file is to be saved, navigate to the folder where the output file will be saved. If the validation is being run for content requirements, change the file name to “Content_ValidationRTE”. If the validation is being run for exam requirements, change the file name to “Exam_ValidatioRTE”. After changing the file name, click

"Save". The ".html" will automatically be added when the file is saved. This window closes automatically.



Save in: 2008-05-02_07.29.45638-88N3Final_CourseCD1_200...

util
2008-05-02_07.29.45638-88N3Final_CourseCD1_20080403_DetailedLog.xml
2008-05-02_07.29.45670-88N3Final_CourseCD1_20080403_SummaryLog.xml
2008-05-02_07.31.12627-MD1_DetailedLog.xml
2008-05-02_07.31.12971-MD2_DetailedLog.xml
2008-05-02_07.31.13205-MD3_DetailedLog.xml
2008-05-02_07.31.13454-MD4_DetailedLog.xml
2008-05-02_07.31.13704-MD5_DetailedLog.xml
2008-05-02_07.31.13938-MD6_DetailedLog.xml
2008-05-02_07.31.14172-MD7_DetailedLog.xml
2008-05-02_07.31.14421-MD8_DetailedLog.xml
2008-05-02_07.31.14655-MD9_DetailedLog.xml
2008-05-02_07.31.14889-MD10_DetailedLog.xml
2008-05-02_07.31.15107-MD11_DetailedLog.xml
2008-05-02_07.31.15341-MD12_DetailedLog.xml

File name: ParsedOutput.html

Files of type: "html" , "htm" and "xml" files

Figure E-6

6. Click the "Parse Logs" button to begin the parsing process.

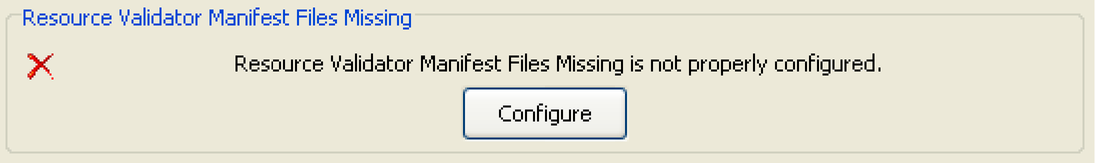
Figure E-7

The output file will be displayed. Review it and log any errors from the summary section on the report form. After the errors, if any, have been recorded on the report form, the output file window can be closed.

Log Parser Procedure for Validating All Testing Log Files EXCEPT the RTE Log

Resource Validator Log Parsing

1. Click the “Configure” button under the “Resource Validator Manifest Files Missing” section.

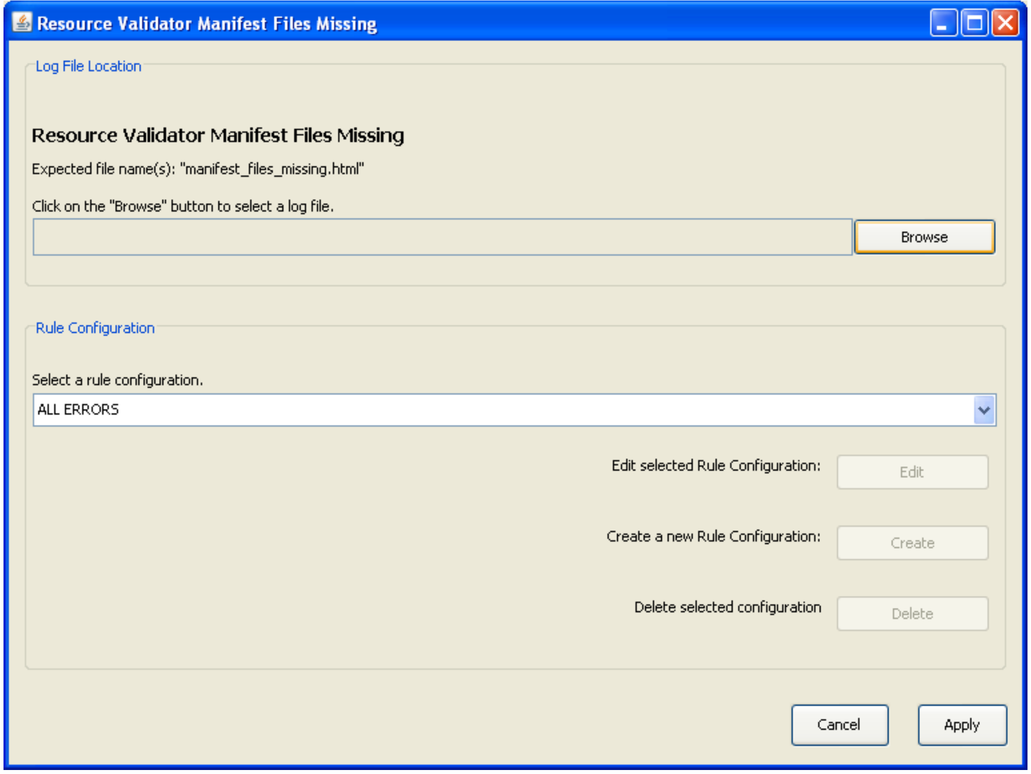


Resource Validator Manifest Files Missing

Resource Validator Manifest Files Missing is not properly configured.

Figure E-8

2. In the configuration window, click the Browse button and locate the "manifest_files_missing.html" file.



Resource Validator Manifest Files Missing

Log File Location

Resource Validator Manifest Files Missing

Expected file name(s): "manifest_files_missing.html"

Click on the "Browse" button to select a log file.

Rule Configuration

Select a rule configuration.

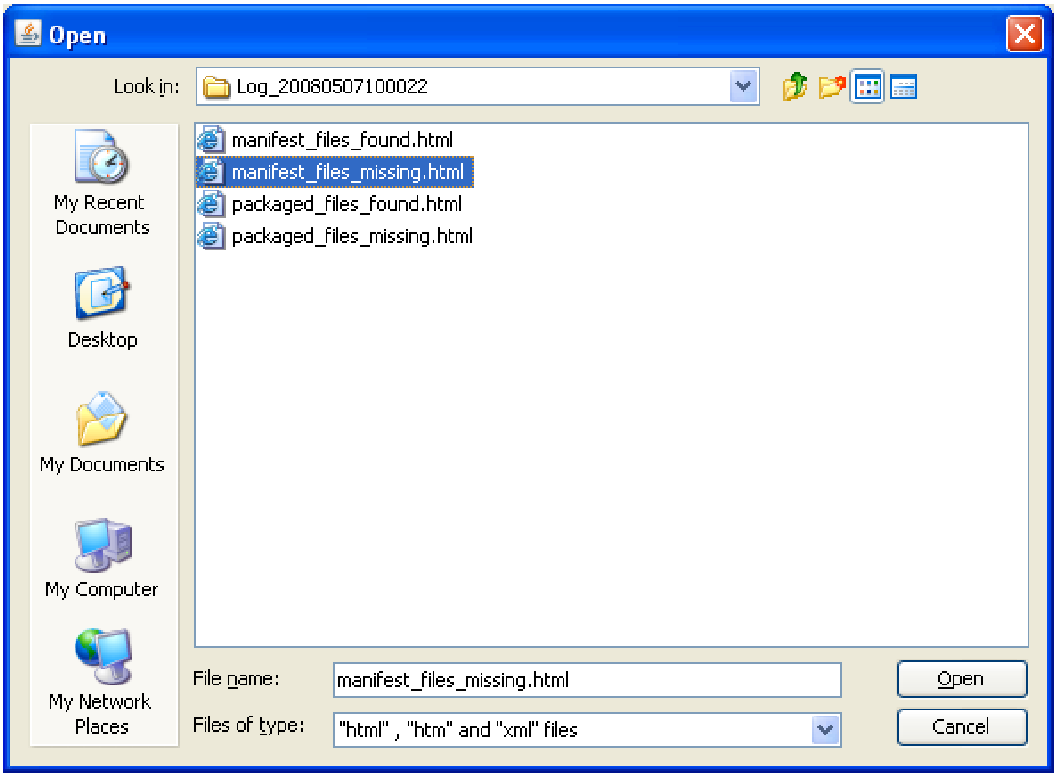
ALL ERRORS

Edit selected Rule Configuration:

Create a new Rule Configuration:

Delete selected configuration

Figure E-9



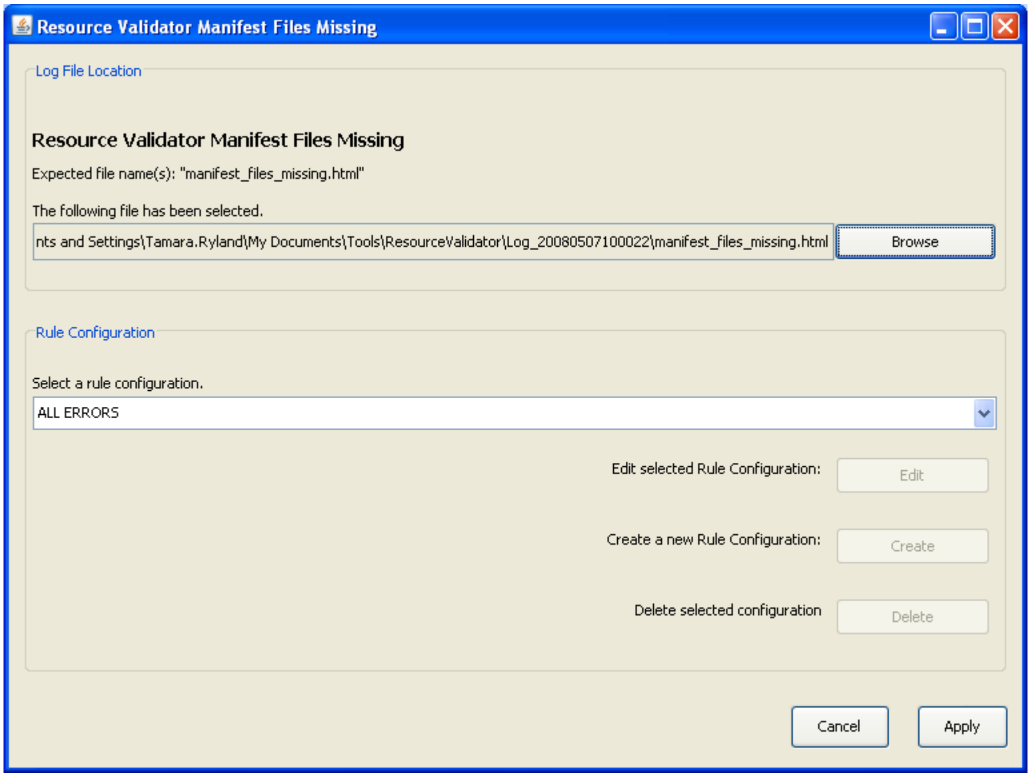
Look in: Log_20080507100022

manifest_files_found.html
manifest_files_missing.html
packaged_files_found.html
packaged_files_missing.html

File name: manifest_files_missing.html

Files of type: "html" , "htm" and "xml" files

Figure E-10



Resource Validator Manifest Files Missing

Expected file name(s): "manifest_files_missing.html"

The following file has been selected.

nts and Settings\Tamara.Ryland\My Documents\Tools\ResourceValidator\Log_20080507100022\manifest_files_missing.html

Select a rule configuration.

ALL ERRORS

Edit selected Rule Configuration:

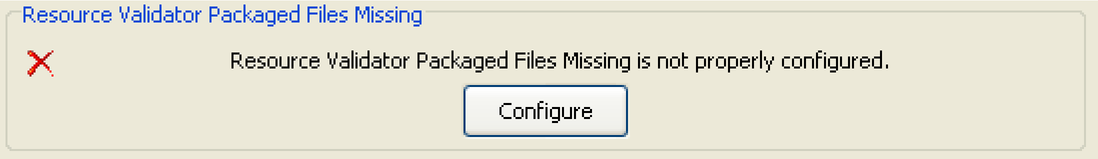
Create a new Rule Configuration:

Delete selected configuration

Figure E-11

3. The only rule configuration is “ALL ERRORS”; no rule configuration needs to be selected. Click the “Apply” button. The configuration window closes automatically.

4. Click the “Configure” button under the “Resource Validator Packaged Files Missing” section.

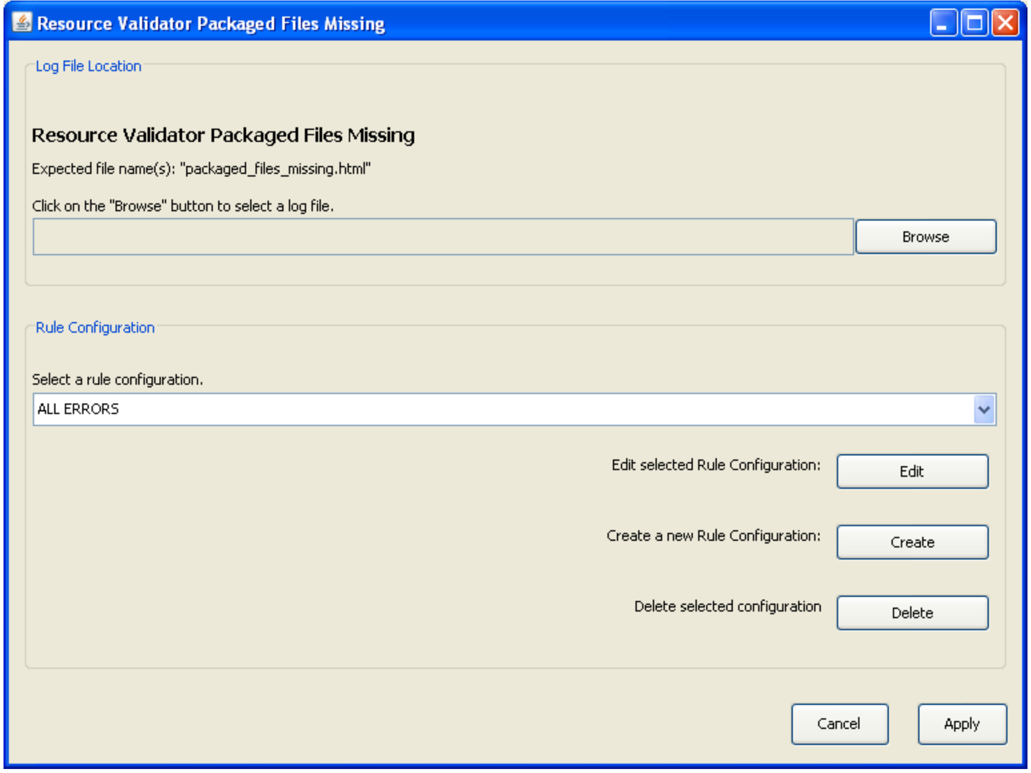


Resource Validator Packaged Files Missing

Resource Validator Packaged Files Missing is not properly configured.

Figure E-12

5. In the configuration window, click the Browse button and locate the “packaged_files_missing.html” file.



Resource Validator Packaged Files Missing

Log File Location

Resource Validator Packaged Files Missing

Expected file name(s): "packaged_files_missing.html"

Click on the "Browse" button to select a log file.

Rule Configuration

Select a rule configuration.

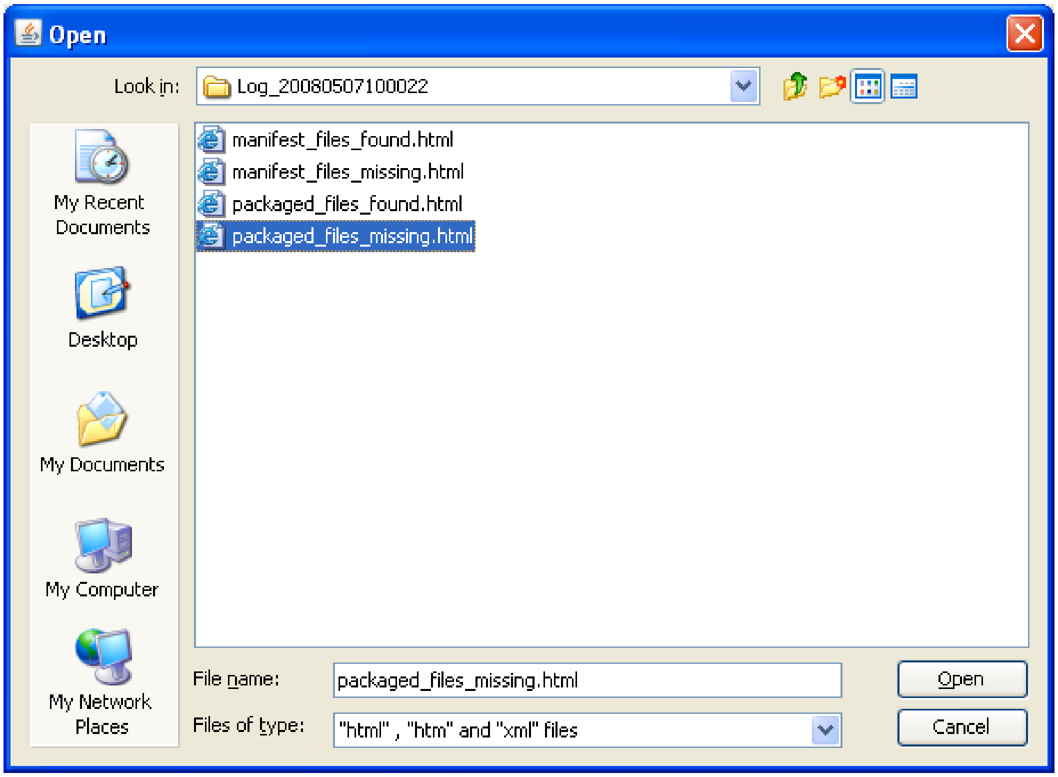
ALL ERRORS

Edit selected Rule Configuration:

Create a new Rule Configuration:

Delete selected configuration

Figure E-13



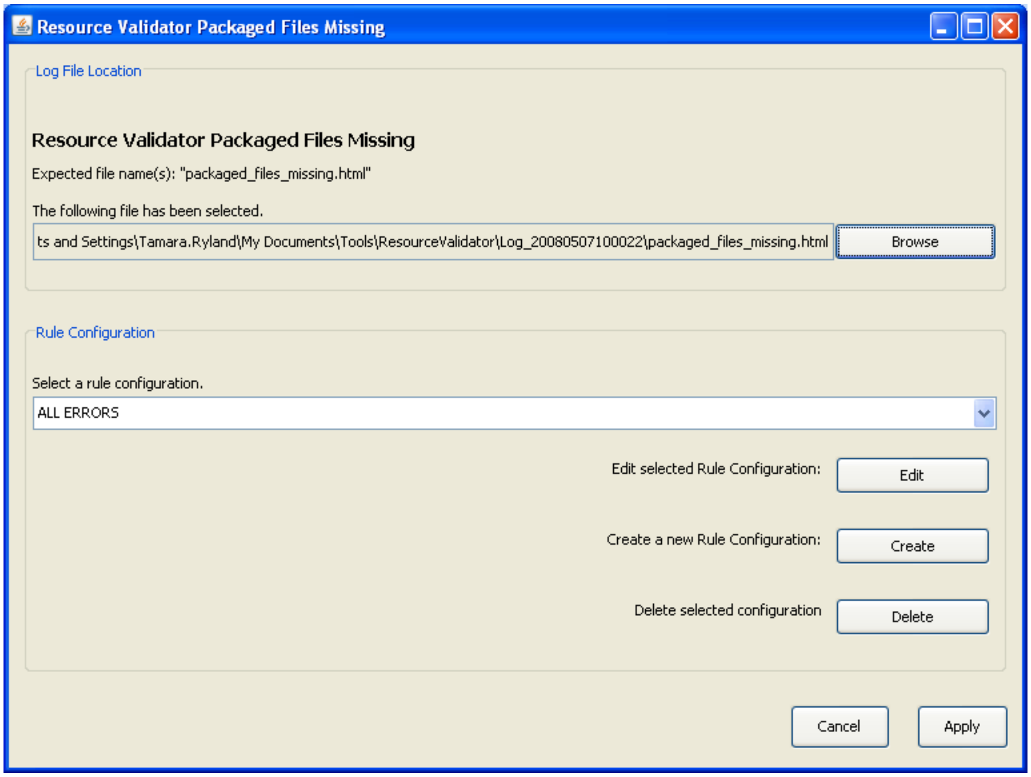
Look in: Log_20080507100022

manifest_files_found.html
manifest_files_missing.html
packaged_files_found.html
packaged_files_missing.html

File name: packaged_files_missing.html

Files of type: "html" , "htm" and "xml" files

Figure E-14



Log File Location

Resource Validator Packaged Files Missing

Expected file name(s): "packaged_files_missing.html"

The following file has been selected.

ts and Settings\Tamara.Ryland\My Documents\Tools\ResourceValidator\Log_20080507100022\packaged_files_missing.html

Rule Configuration

Select a rule configuration.

ALL ERRORS

Edit selected Rule Configuration:

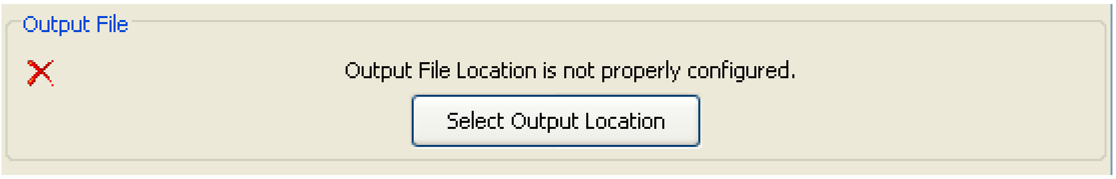
Create a new Rule Configuration:

Delete selected configuration

Figure E-15

6. The only rule configuration is “ALL ERRORS”; no rule configuration needs to be selected. Click the “Apply” button. The configuration window closes automatically.

7. Click the "Select Output Location" button under the "Output File" section.



Output File Location is not properly configured.

Figure E-16

8. The default location for the output file is the folder where your “packaged _files_missing.html” log file is located. If this is not the location where the output file is to be saved, navigate to the folder where the output file will be saved. Click “Save”. This window closes automatically.

9. Click the “Parse Logs” button to begin the parsing process.

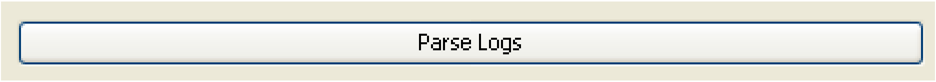
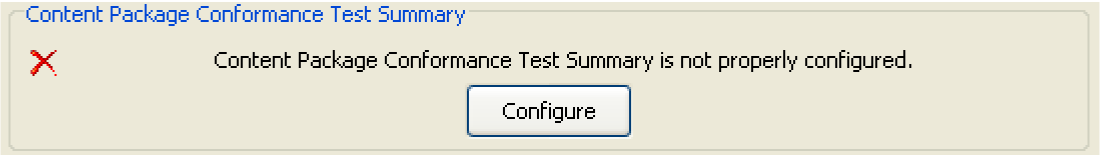


Figure E-17

The output file will be displayed. Review it and log any errors from the summary section on the report form. After the errors, if any, have been recorded on the report form, the output file window can be closed.

Content Package Log Parsing for SCORM 2004 3rd Edition

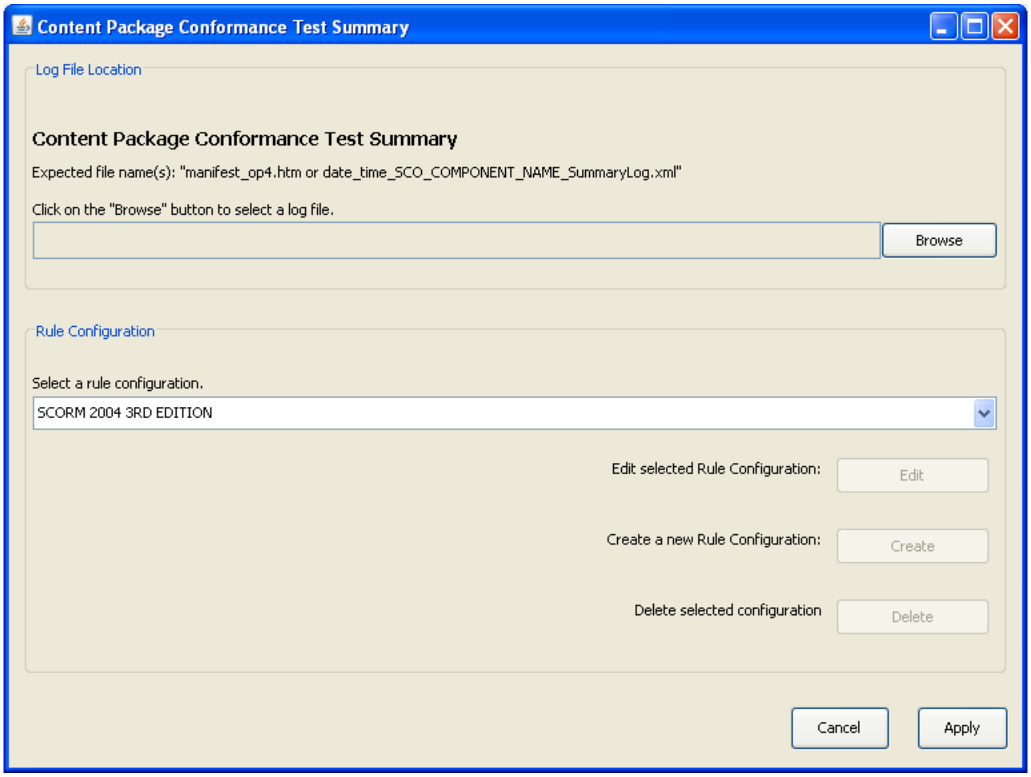
1. Click the “Configure” button under the “Content Package Conformance Test Summary” section.



Content Package Conformance Test Summary is not properly configured.

Figure E-18

2. In the configuration window, click the Browse button and locate the SCORM Content Package Conformance test summary log file. The log file will have “SummaryLog.xml” at the end of the filename.



Content Package Conformance Test Summary
Log File Location

Content Package Conformance Test Summary

Expected file name(s): "manifest_op4.htm or date_time_SCO_COMPONENT_NAME_SummaryLog.xml"

Click on the "Browse" button to select a log file.

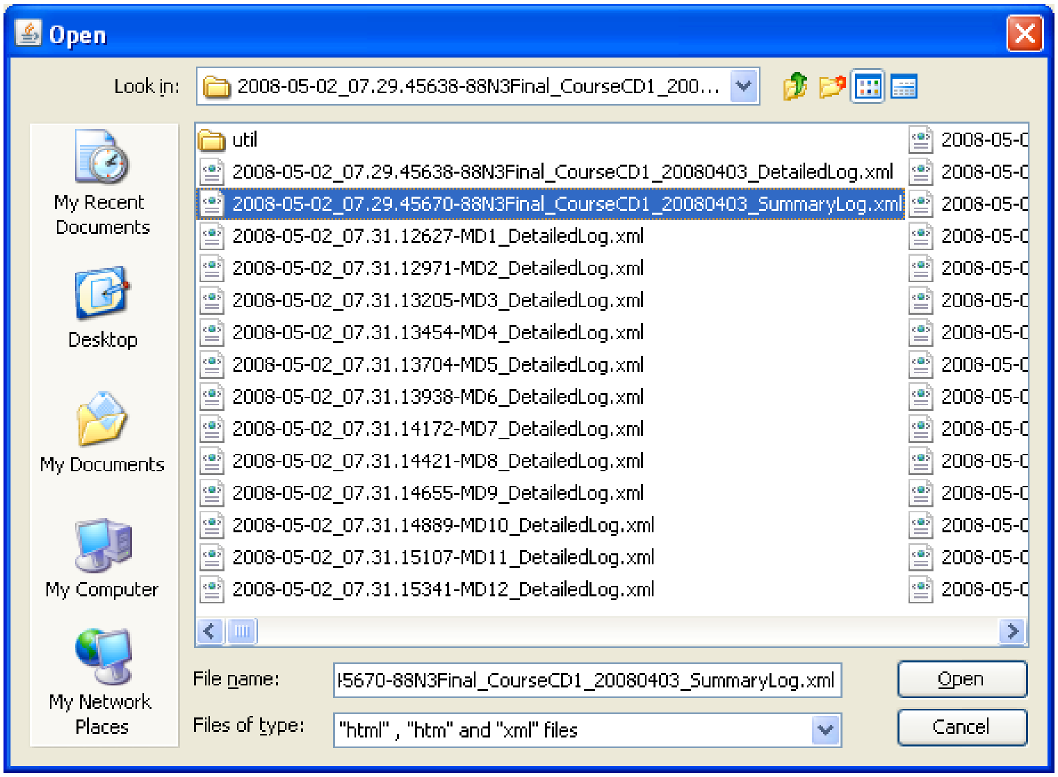
Browse
Rule Configuration

Select a rule configuration.

SCORM 2004 3RD EDITION

Edit selected Rule Configuration:
Edit
Create a new Rule Configuration:
Create
Delete selected configuration
Delete
Cancel
Apply

Figure E-19



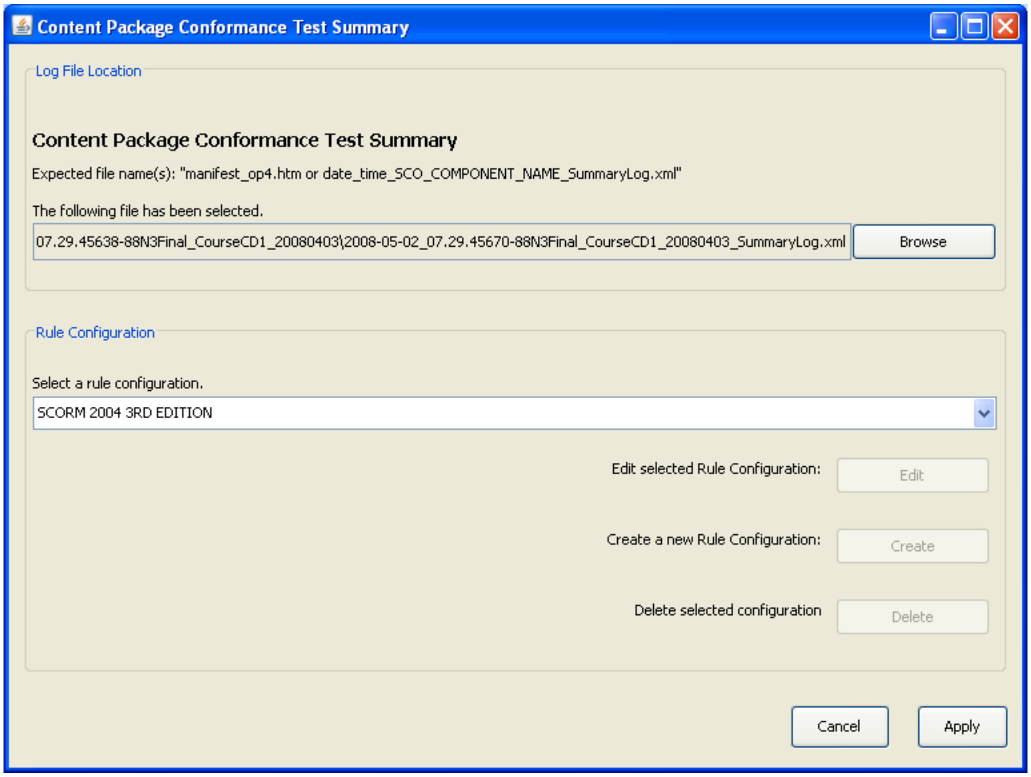
Look in: 2008-05-02_07.29.45638-88N3Final_CourseCD1_200...

```
util
2008-05-02_07.29.45638-88N3Final_CourseCD1_20080403_DetailedLog.xml
2008-05-02_07.29.45670-88N3Final_CourseCD1_20080403_SummaryLog.xml
2008-05-02_07.31.12627-MD1_DetailedLog.xml
2008-05-02_07.31.12971-MD2_DetailedLog.xml
2008-05-02_07.31.13205-MD3_DetailedLog.xml
2008-05-02_07.31.13454-MD4_DetailedLog.xml
2008-05-02_07.31.13704-MD5_DetailedLog.xml
2008-05-02_07.31.13938-MD6_DetailedLog.xml
2008-05-02_07.31.14172-MD7_DetailedLog.xml
2008-05-02_07.31.14421-MD8_DetailedLog.xml
2008-05-02_07.31.14655-MD9_DetailedLog.xml
2008-05-02_07.31.14889-MD10_DetailedLog.xml
2008-05-02_07.31.15107-MD11_DetailedLog.xml
2008-05-02_07.31.15341-MD12_DetailedLog.xml
```

File name: 5670-88N3Final_CourseCD1_20080403_SummaryLog.xml

Files of type: "html" , "htm" and "xml" files

Figure E-20



Content Package Conformance Test Summary

Expected file name(s): "manifest_op4.htm or date_time_SCO_COMPONENT_NAME_SummaryLog.xml"

The following file has been selected.

07.29.45638-88N3Final_CourseCD1_20080403\2008-05-02_07.29.45670-88N3Final_CourseCD1_20080403_SummaryLog.xml

Select a rule configuration.

SCORM 2004 3RD EDITION

Edit selected Rule Configuration:

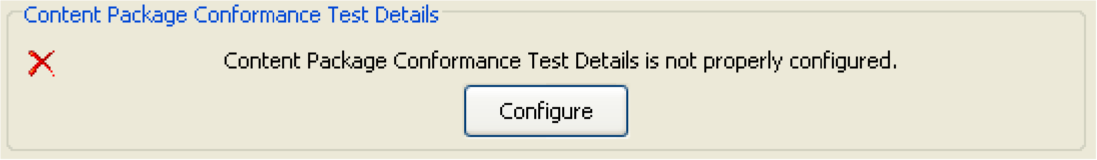
Create a new Rule Configuration:

Delete selected configuration

Figure E-21

3. The only rule configuration is "SCORM 2004 3RD EDITION"; no rule configuration needs to be selected. Click the "Apply" button. The configuration window closes automatically.

4. Click the "Configure" button under the "Content Package Conformance Test Details" section.

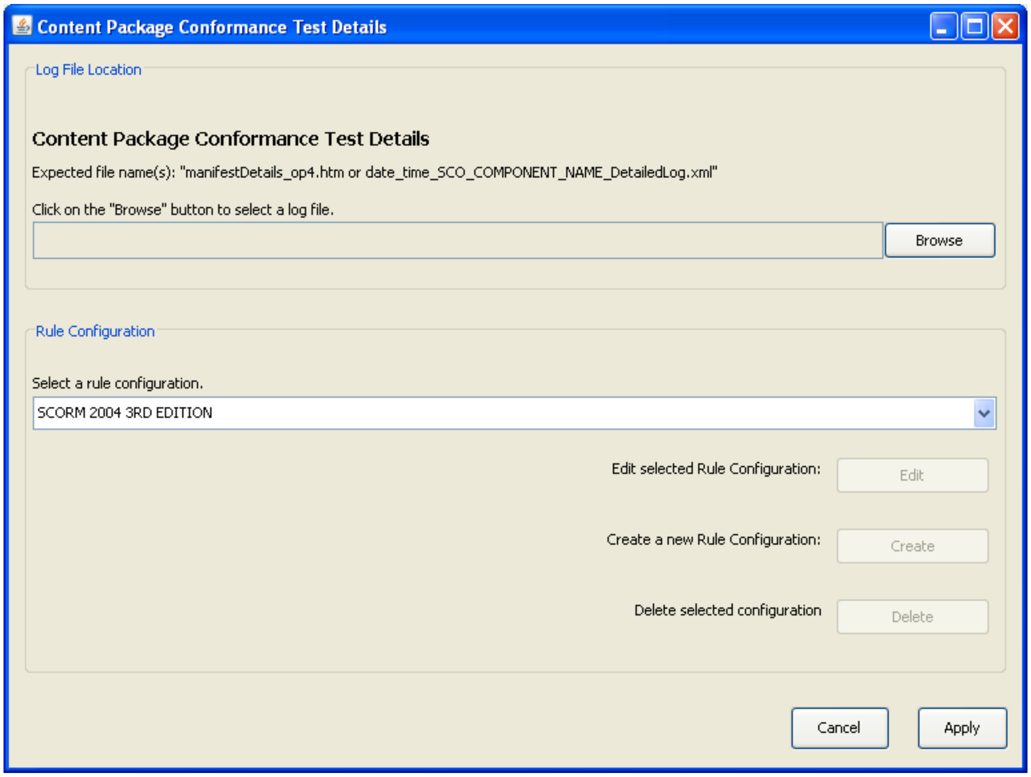


Content Package Conformance Test Details

✗ Content Package Conformance Test Details is not properly configured.

Figure E-22

5. In the configuration window, click the Browse button and locate the SCORM Content Package Conformance test detail log file. The log file will have "DetailedLog.xml" at the end of the filename.



Content Package Conformance Test Details

Log File Location

Content Package Conformance Test Details

Expected file name(s): "manifestDetails_op4.htm or date_time_SCO_COMPONENT_NAME_DetailedLog.xml"

Click on the "Browse" button to select a log file.

Rule Configuration

Select a rule configuration.

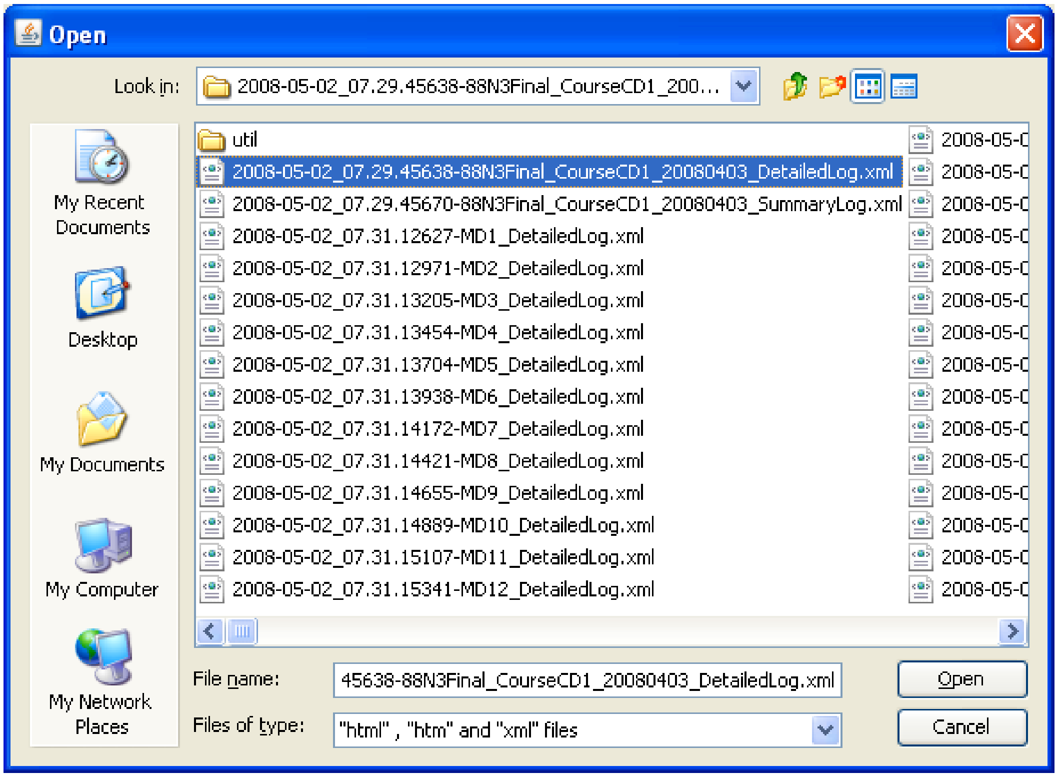
SCORM 2004 3RD EDITION

Edit selected Rule Configuration:

Create a new Rule Configuration:

Delete selected configuration

Figure E-23



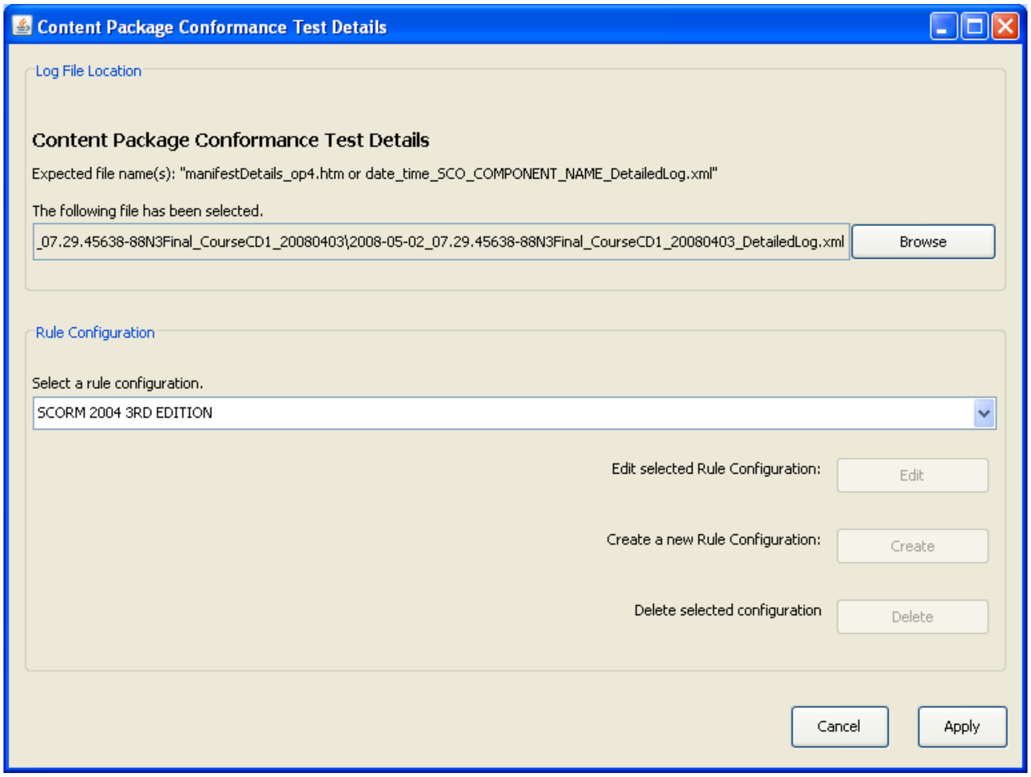
Look in: 2008-05-02_07.29.45638-88N3Final_CourseCD1_200…

util
2008-05-02_07.29.45638-88N3Final_CourseCD1_20080403_DetailedLog.xml
2008-05-02_07.29.45670-88N3Final_CourseCD1_20080403_SummaryLog.xml
2008-05-02_07.31.12627-MD1_DetailedLog.xml
2008-05-02_07.31.12971-MD2_DetailedLog.xml
2008-05-02_07.31.13205-MD3_DetailedLog.xml
2008-05-02_07.31.13454-MD4_DetailedLog.xml
2008-05-02_07.31.13704-MD5_DetailedLog.xml
2008-05-02_07.31.13938-MD6_DetailedLog.xml
2008-05-02_07.31.14172-MD7_DetailedLog.xml
2008-05-02_07.31.14421-MD8_DetailedLog.xml
2008-05-02_07.31.14655-MD9_DetailedLog.xml
2008-05-02_07.31.14889-MD10_DetailedLog.xml
2008-05-02_07.31.15107-MD11_DetailedLog.xml
2008-05-02_07.31.15341-MD12_DetailedLog.xml

File name: 45638-88N3Final_CourseCD1_20080403_DetailedLog.xml

Files of type: "html" , "htm" and "xml" files

Figure E-24



Content Package Conformance Test Details

Expected file name(s): "manifestDetails_op4.htm or date_time_SCO_COMPONENT_NAME_DetailedLog.xml"

The following file has been selected.

_07.29.45638-88N3Final_CourseCD1_20080403\2008-05-02_07.29.45638-88N3Final_CourseCD1_20080403_DetailedLog.xml

Select a rule configuration.

SCORM 2004 3RD EDITION

Edit selected Rule Configuration:

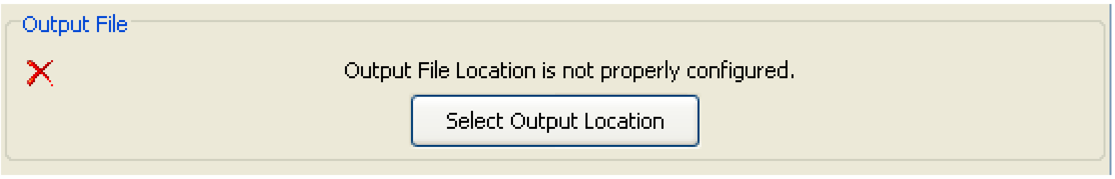
Create a new Rule Configuration:

Delete selected configuration

Figure E-25

6. The only rule configuration is “SCORM 2004 3RD EDITION”; no rule configuration needs to be selected. Click the “Apply” button. The configuration window closes automatically.

7. Click the "Select Output Location" button under the "Output File" section.



Output File

Output File Location is not properly configured.

Figure E-26

8. The default location for the output file is the folder where your SCORM Content Package Conformance Test log file is located. If this is not the location where the output file is to be saved, navigate to the folder where the output file will be saved. Click “Save”. This window closes automatically.

9. Click the “Parse Logs” button to begin the parsing process.

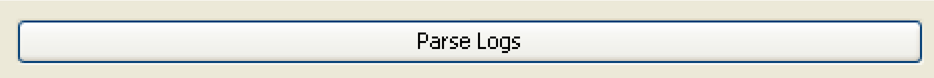
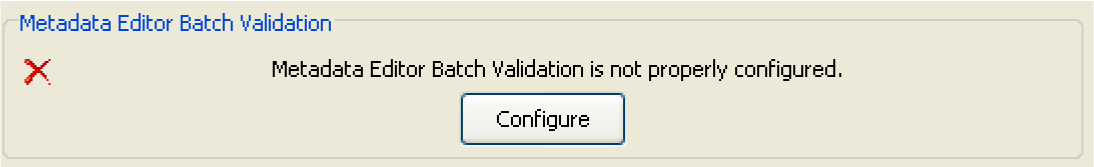


Figure E-27

The output file will be displayed. Review it and log any errors from the summary section on the report form. After the errors, if any, have been recorded on the report form, the output file window can be closed.

Metadata Log Parsing

1. Click the “Configure” button under the “Metadata Editor Batch Validation” section.

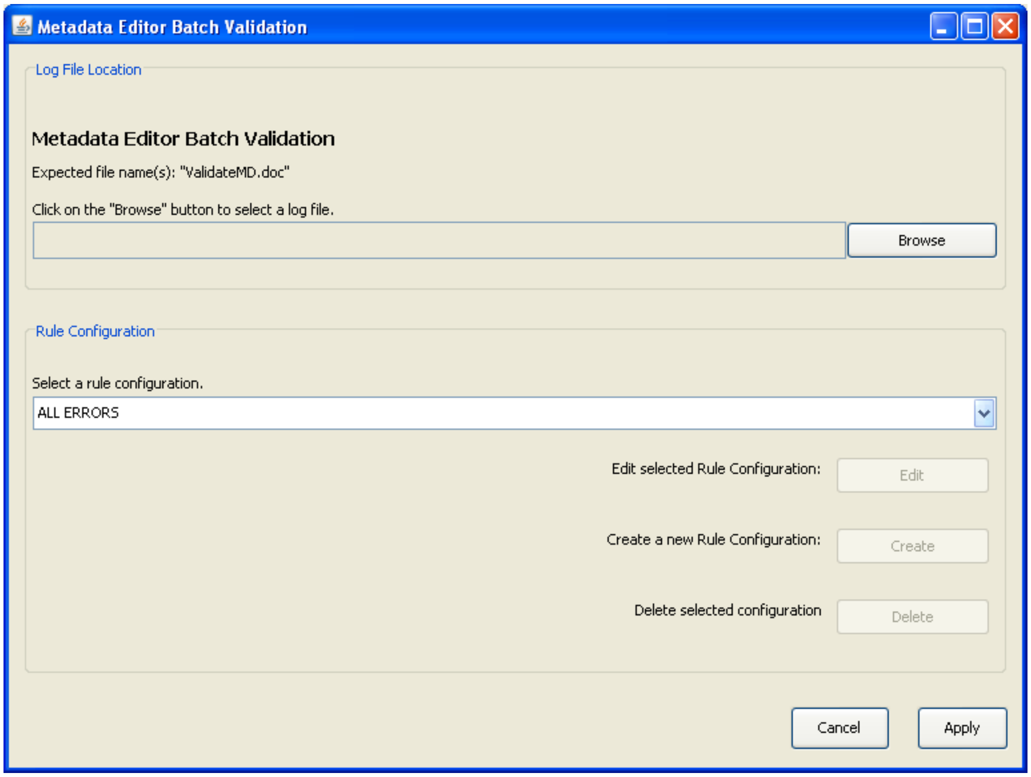


Metadata Editor Batch Validation

Metadata Editor Batch Validation is not properly configured.

Figure E-28

2. In the configuration window, click the Browse button and locate the Metadata Editor Batch Validation log file (e.g. ValidateMD.doc)



Metadata Editor Batch Validation

Log File Location

Metadata Editor Batch Validation

Expected file name(s): "ValidateMD.doc"

Click on the "Browse" button to select a log file.

Rule Configuration

Select a rule configuration.

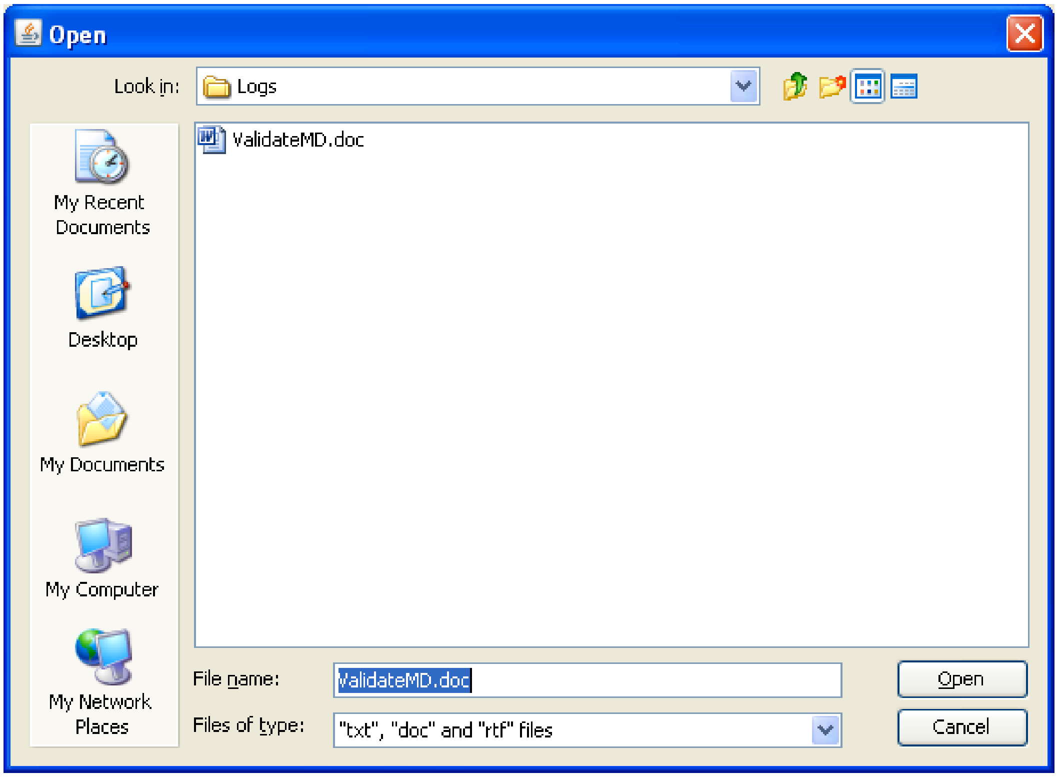
ALL ERRORS

Edit selected Rule Configuration:

Create a new Rule Configuration:

Delete selected configuration

Figure E-29



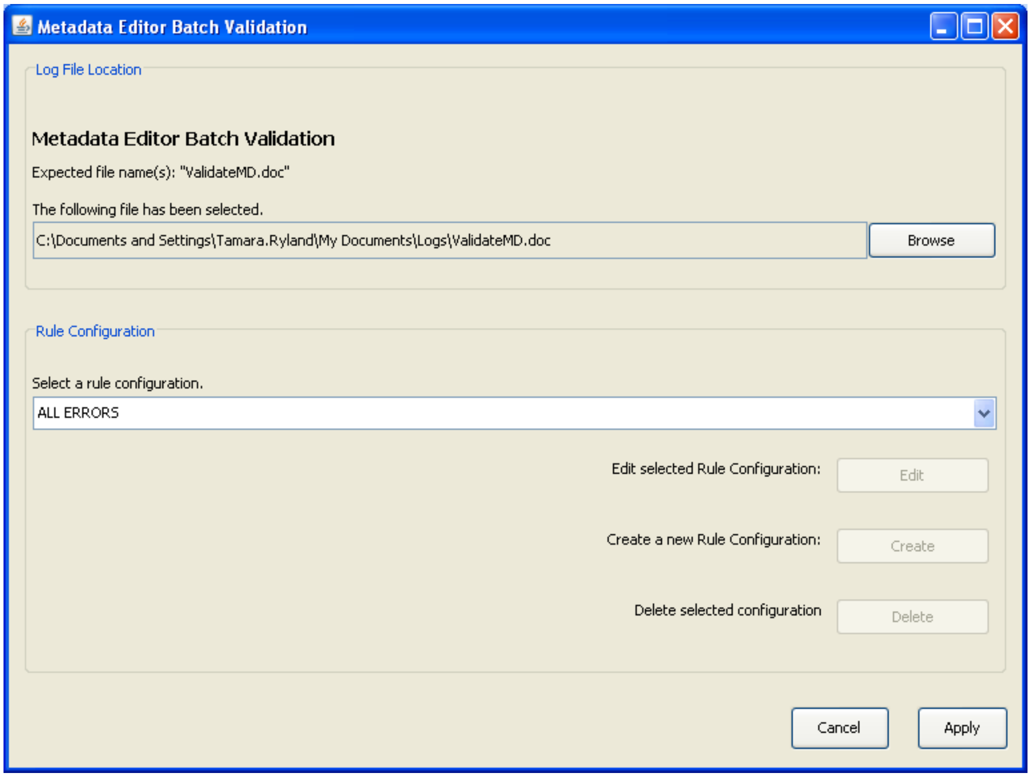
Look in: Logs

ValidateMD.doc

File name: ValidateMD.doc

Files of type: "txt", "doc" and "rtf" files

Figure E-30



Log File Location

Metadata Editor Batch Validation

Expected file name(s): "ValidateMD.doc"

The following file has been selected.

C:\Documents and Settings\Tamara.Ryland\My Documents\Logs\ValidateMD.doc

Rule Configuration

Select a rule configuration.

ALL ERRORS

Edit selected Rule Configuration:

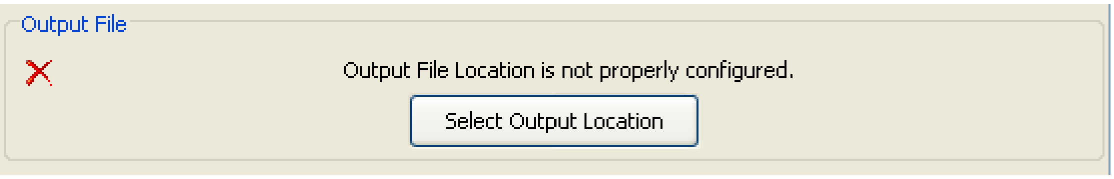
Create a new Rule Configuration:

Delete selected configuration

Figure E-31

3. The only rule configuration is “ALL ERRORS”; no rule configuration needs to be selected. Click the “Apply” button. The configuration window closes automatically.

4. Click the "Select Output Location" button under the "Output File" section.



Output File Location is not properly configured.

Figure E-32

5. The default location for the output file is the folder where your Metadata Editor Batch Validation log file is located. If this is not the location where the output file is to be saved, navigate to the folder where the output file will be saved. Click “Save”. This window closes automatically.

6. Click the “Parse Logs” button to begin the parsing process.

Figure E-33

The output file will be displayed. Review it and log any errors from the summary section on the report form. After the errors, if any, have been recorded on the report form, the output file window can be closed.

These log parsing procedures may be run individually or collectively. If they are run collectively, the configuration of the output file location should be done as the last step before clicking the “Parse Logs” button to begin the parsing process. If they are run individually, follow the procedures as they are written.

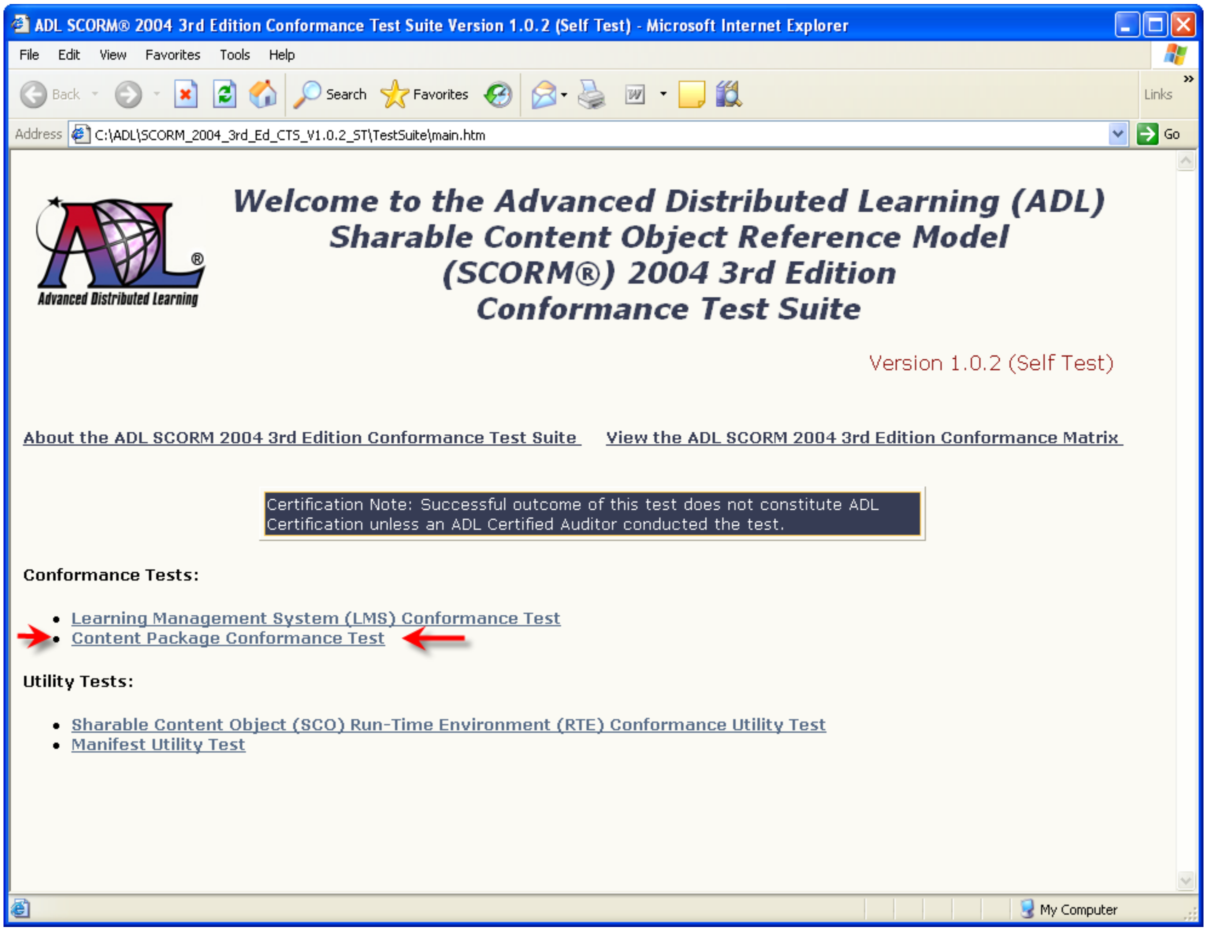
APPENDIX F – ADL Content Package Conformance Test

With the log file changes that ADL put in place with the Version 1.0.2 ADL Conformance Test Suite it is recommended that the **Content Package test and the SCO Run-time Environment test be performed in a single run of the test suite**. Advantages provided by the single run are:

- All log files are generated in a single directory for easy transmittal to ATSC
- The Test Suite program uses manifest SCO information that must be entered by hand when executing the SCO Run-time Environment test in standalone mode.
-

The following steps should be followed to perform the ADL Test Suite Content Package Conformance Test:

1. Launch the ADL Test Suite. It will display as shown below:


ADL SCORM® 2004 3rd Edition Conformance Test Suite Version 1.0.2 (Self Test) - Microsoft Internet Explorer
File
Edit
View
Favorites
Tools
Help
Back
Search
Favorites
Links
Address
C:\ADL\SCORM_2004_3rd_Ed_CTS_V1.0.2_ST\TestSuite\main.htm
Go
Advanced Distributed Learning
My Computer

Welcome to the Advanced Distributed Learning (ADL) Sharable Content Object Reference Model (SCORM®) 2004 3rd Edition Conformance Test Suite

Version 1.0.2 (Self Test)

About the ADL SCORM 2004 3rd Edition Conformance Test Suite

View the ADL SCORM 2004 3rd Edition Conformance Matrix

Certification Note: Successful outcome of this test does not constitute ADL Certification unless an ADL Certified Auditor conducted the test.

Conformance Tests:

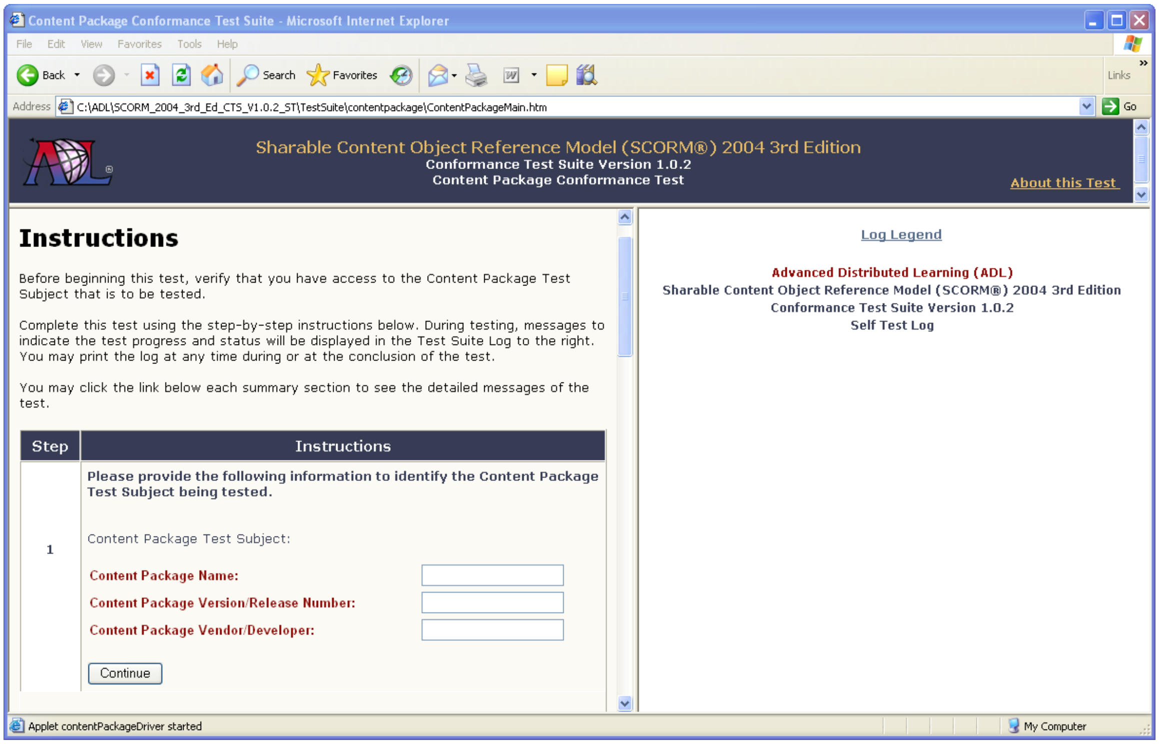
- Learning Management System (LMS) Conformance Test
- Content Package Conformance Test

Utility Tests:

- Sharable Content Object (SCO) Run-Time Environment (RTE) Conformance Utility Test
- Manifest Utility Test

Figure F1

Scroll down and under the heading, "Conformance Tests:", click on the second option titled "Content Package Conformance Test". The start page will display as shown below:


Content Package Conformance Test Suite - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Links
Address C:\ADL\SCORM_2004_3rd_Ed_CTS_V1.0.2_ST\TestSuite\contentpackage\ContentPackageMain.htm
Go
About this Test
Log Legend
Continue
Applet contentPackageDriver started
My Computer

Sharable Content Object Reference Model (SCORM®) 2004 3rd Edition
Conformance Test Suite Version 1.0.2
Content Package Conformance Test

Instructions

Before beginning this test, verify that you have access to the Content Package Test Subject that is to be tested.

Complete this test using the step-by-step instructions below. During testing, messages to indicate the test progress and status will be displayed in the Test Suite Log to the right. You may print the log at any time during or at the conclusion of the test.

You may click the link below each summary section to see the detailed messages of the test.

Step	Instructions
1	**Please provide the following information to identify the Content Package Test Subject being tested.** Content Package Test Subject: **Content Package Name:** **Content Package Version/Release Number:** **Content Package Vendor/Developer:**

Advanced Distributed Learning (ADL)
Sharable Content Object Reference Model (SCORM®) 2004 3rd Edition
Conformance Test Suite Version 1.0.2
Self Test Log

Figure F2

NOTE: To understand conformance symbols that will display in the Log, click on the "Log Legend" button at the top of the right frame.

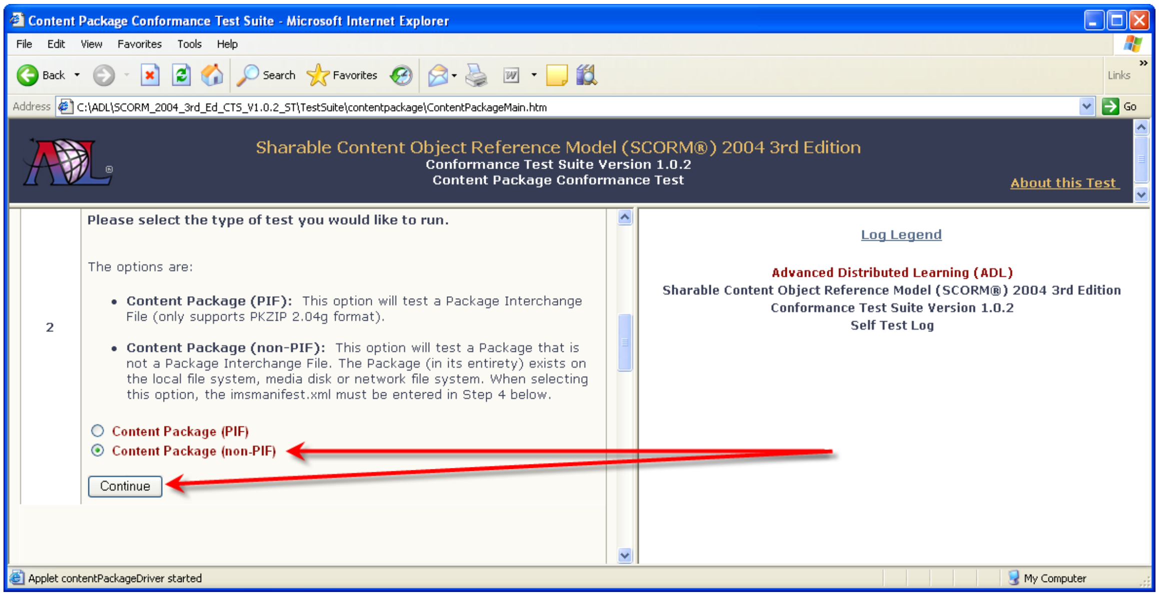
2. In the left frame, scroll down and enter information in the 3 text boxes. (This will also be displayed at the top of the Log File for courseware identification.) If this information is not available, leave blank and proceed.

Content Package name	Enter name of courseware
Content Package Version/Release number	Enter version or date received
Content Package Vendor/Developer	Enter vendor's name

Click "Continue" button.

3. There are the two choices for this test.

   Select "Content Package (Non PIF)" (OPTION 2).
   Click "Continue" button.


Content Package Conformance Test Suite - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back
Search
Favorites
Links
Address
C:\ADL\SCORM_2004_3rd_Ed_CTS_V1.0.2_ST\TestSuite\contentpackage\ContentPackageMain.htm
Go
About this Test
Log Legend
Continue
Applet contentPackageDriver started
My Computer

Sharable Content Object Reference Model (SCORM®) 2004 3rd Edition
Conformance Test Suite Version 1.0.2
Content Package Conformance Test

2

Please select the type of test you would like to run.

The options are:

- **Content Package (PIF):** This option will test a Package Interchange File (only supports PKZIP 2.04g format).
- **Content Package (non-PIF):** This option will test a Package that is not a Package Interchange File. The Package (in its entirety) exists on the local file system, media disk or network file system. When selecting this option, the imsmanifest.xml must be entered in Step 4 below.

○ Content Package (PIF)
● Content Package (non-PIF)

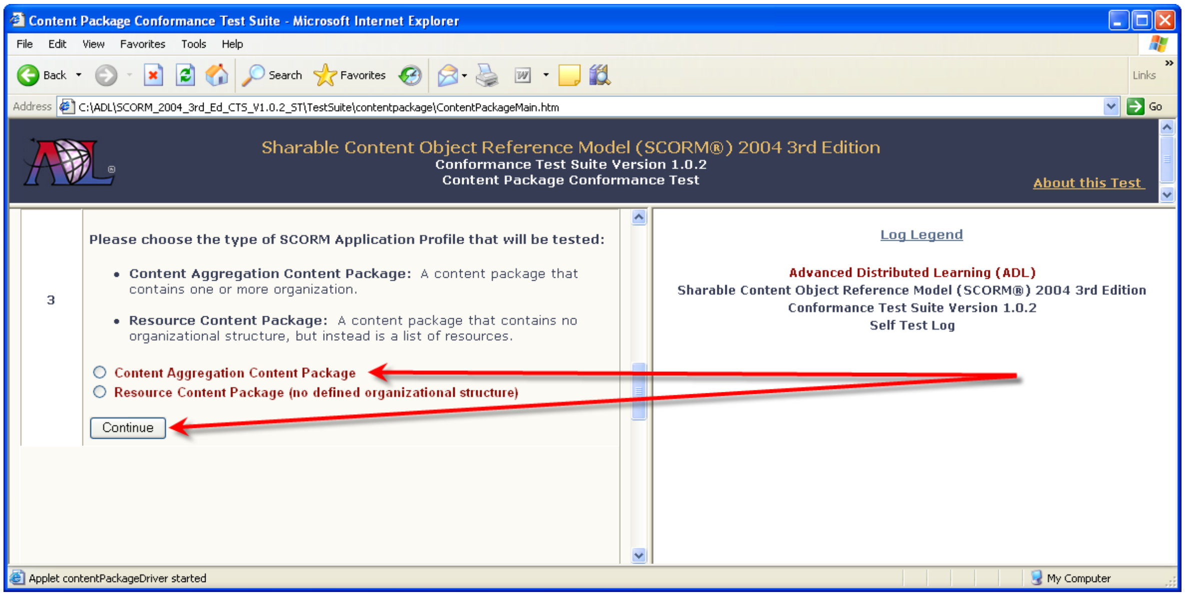
Advanced Distributed Learning (ADL)
Sharable Content Object Reference Model (SCORM®) 2004 3rd Edition
Conformance Test Suite Version 1.0.2
Self Test Log

Figure F3

Note: Either available option on this screen will execute the same tests and produce the same log files. The “Content Package (Non PIF)” option is suggested in this document to simplify corrections should errors occur.

4. Next, there are 2 choices.

   Select "Content Aggregation Content Package" (Option 1).
   Click "Continue" button.


Content Package Conformance Test Suite - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Links
Address C:\ADL\SCORM_2004_3rd_Ed_CTS_V1.0.2_ST\TestSuite\contentpackage\ContentPackageMain.htm
Go

Sharable Content Object Reference Model (SCORM®) 2004 3rd Edition
Conformance Test Suite Version 1.0.2
Content Package Conformance Test

About this Test

3

Please choose the type of SCORM Application Profile that will be tested:

- **Content Aggregation Content Package:** A content package that contains one or more organization.
- **Resource Content Package:** A content package that contains no organizational structure, but instead is a list of resources.

○ Content Aggregation Content Package
○ Resource Content Package (no defined organizational structure)

Continue

Log Legend

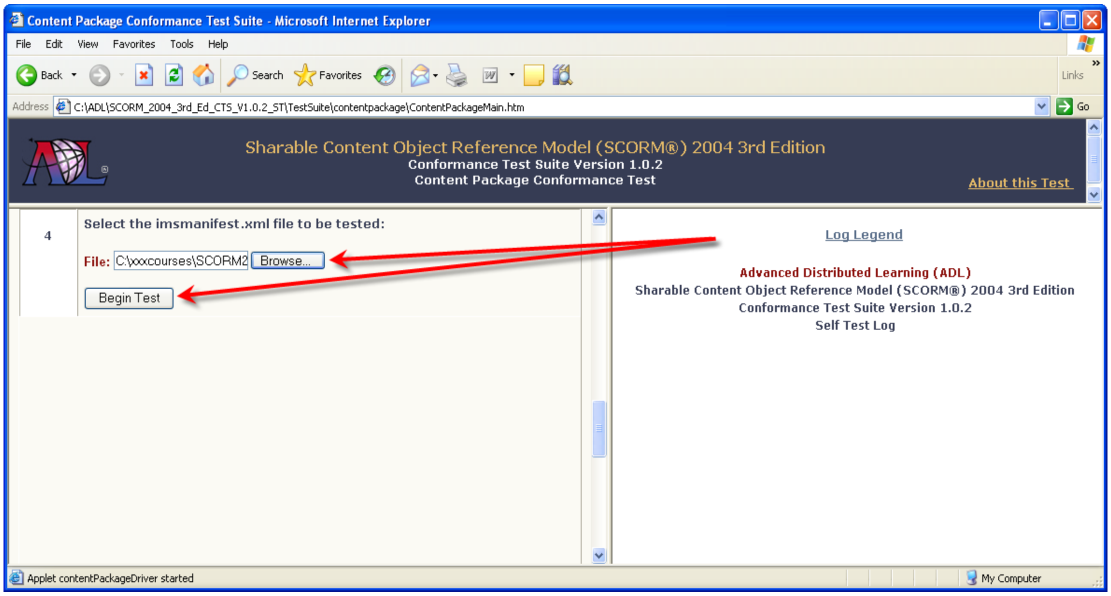
Advanced Distributed Learning (ADL)
Sharable Content Object Reference Model (SCORM®) 2004 3rd Edition
Conformance Test Suite Version 1.0.2
Self Test Log

Applet contentPackageDriver started

Figure F4

5. Click "Browse" button and navigate to the courseware root folder and select the "imsmanifest.xml" file.

   Click "Open".



Content Package Conformance Test Suite - Microsoft Internet Explorer

C:\ADL\SCORM_2004_3rd_Ed_CTS_V1.0.2_ST\TestSuite\contentpackage\ContentPackageMain.htm

Sharable Content Object Reference Model (SCORM®) 2004 3rd Edition
Conformance Test Suite Version 1.0.2
Content Package Conformance Test

Select the imsmanifest.xml file to be tested:

File: C:\xxxcourses\SCORM2

Advanced Distributed Learning (ADL)
Sharable Content Object Reference Model (SCORM®) 2004 3rd Edition
Conformance Test Suite Version 1.0.2
Self Test Log

Applet contentPackageDriver started

Figure F5

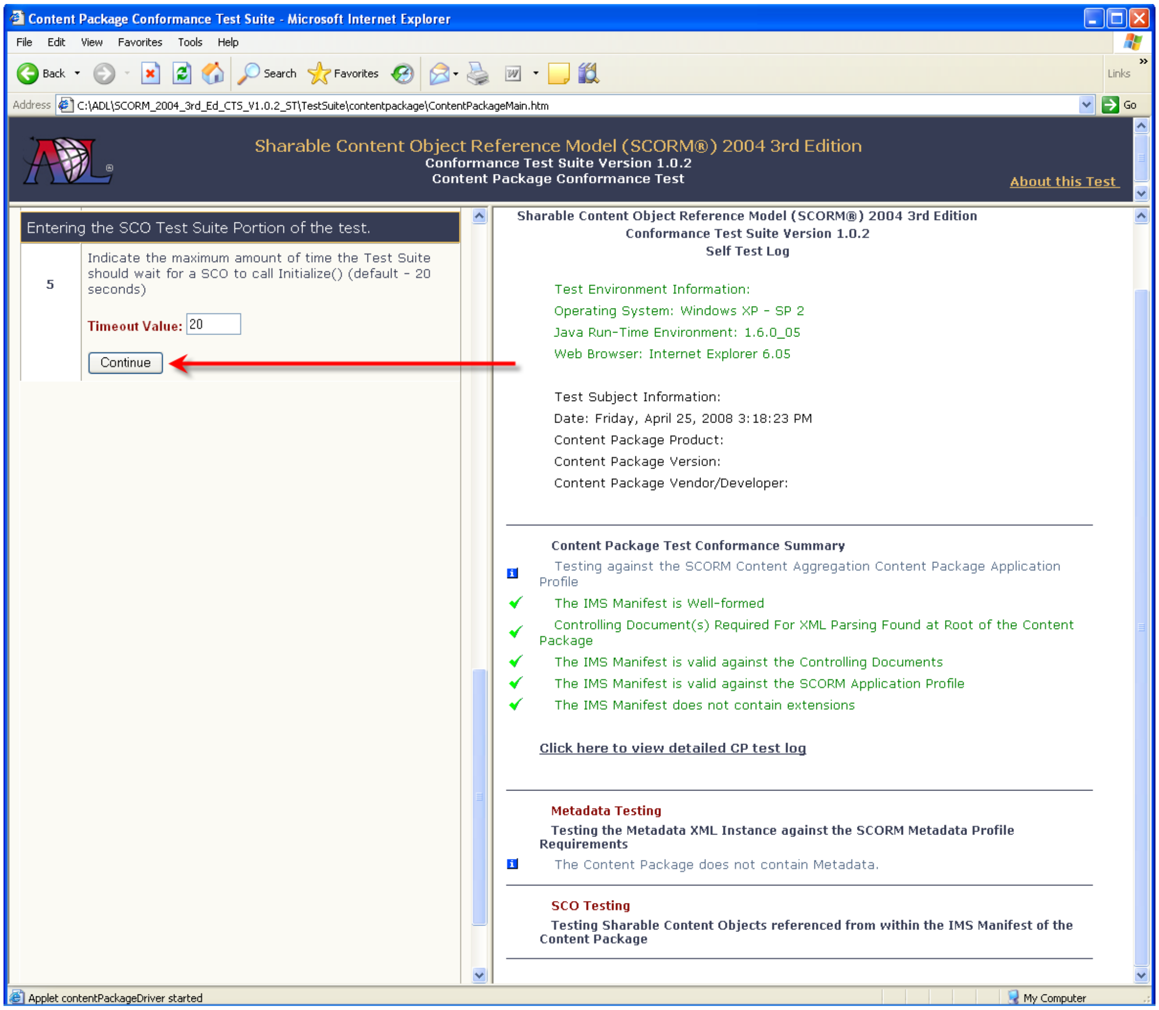
6. Click "Begin Test" button as shown above. The following message will appear: "The Content Package Test initiated. This may take a few minutes, please be patient."
7. Click the "OK" button to begin processing. There may be a pause before processing begins. Keep waiting.
   - Processing begins. The manifest file will be tested first and there may be a pause in processing. Then all metadata files will be tested. Please be patient while the manifest file and each metadata file are processed.

     NOTE: This test can take a very long time.
   - Processing has finished when the right frame has stopped scrolling.

   NOTE: Both the manifest and the metadata included in the package will be determined conformant here. If the manifest is non-conformant, the metadata will not be processed. Also, if the manifest is non-conformant, the SCO Run-time test cannot be conducted.

   - Should errors occur click the “Click here to view detailed CP test log” hyperlink to search the detail log for errors to be isolated and corrected.

For a successful CP test the right frame will look similar to the screen below:


Content Package Conformance Test Suite - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Links
Address C:\ADL\SCORM_2004_3rd_Ed_CTS_V1.0.2_ST\TestSuite\contentpackage\ContentPackageMain.htm
Go
Applet contentPackageDriver started
My Computer

Sharable Content Object Reference Model (SCORM®) 2004 3rd Edition
Conformance Test Suite Version 1.0.2
Content Package Conformance Test

About this Test

Entering the SCO Test Suite Portion of the test.

5 Indicate the maximum amount of time the Test Suite should wait for a SCO to call Initialize() (default - 20 seconds)

Timeout Value: 20

Continue

Sharable Content Object Reference Model (SCORM®) 2004 3rd Edition
Conformance Test Suite Version 1.0.2
Self Test Log

Test Environment Information:
Operating System: Windows XP - SP 2
Java Run-Time Environment: 1.6.0_05
Web Browser: Internet Explorer 6.05

Test Subject Information:
Date: Friday, April 25, 2008 3:18:23 PM
Content Package Product:
Content Package Version:
Content Package Vendor/Developer:

Content Package Test Conformance Summary

- Testing against the SCORM Content Aggregation Content Package Application Profile
- ✓ The IMS Manifest is Well-formed
- ✓ Controlling Document(s) Required For XML Parsing Found at Root of the Content Package
- ✓ The IMS Manifest is valid against the Controlling Documents
- ✓ The IMS Manifest is valid against the SCORM Application Profile
- ✓ The IMS Manifest does not contain extensions

Click here to view detailed CP test log

Metadata Testing
Testing the Metadata XML Instance against the SCORM Metadata Profile Requirements

- The Content Package does not contain Metadata.

SCO Testing
Testing Sharable Content Objects referenced from within the IMS Manifest of the Content Package

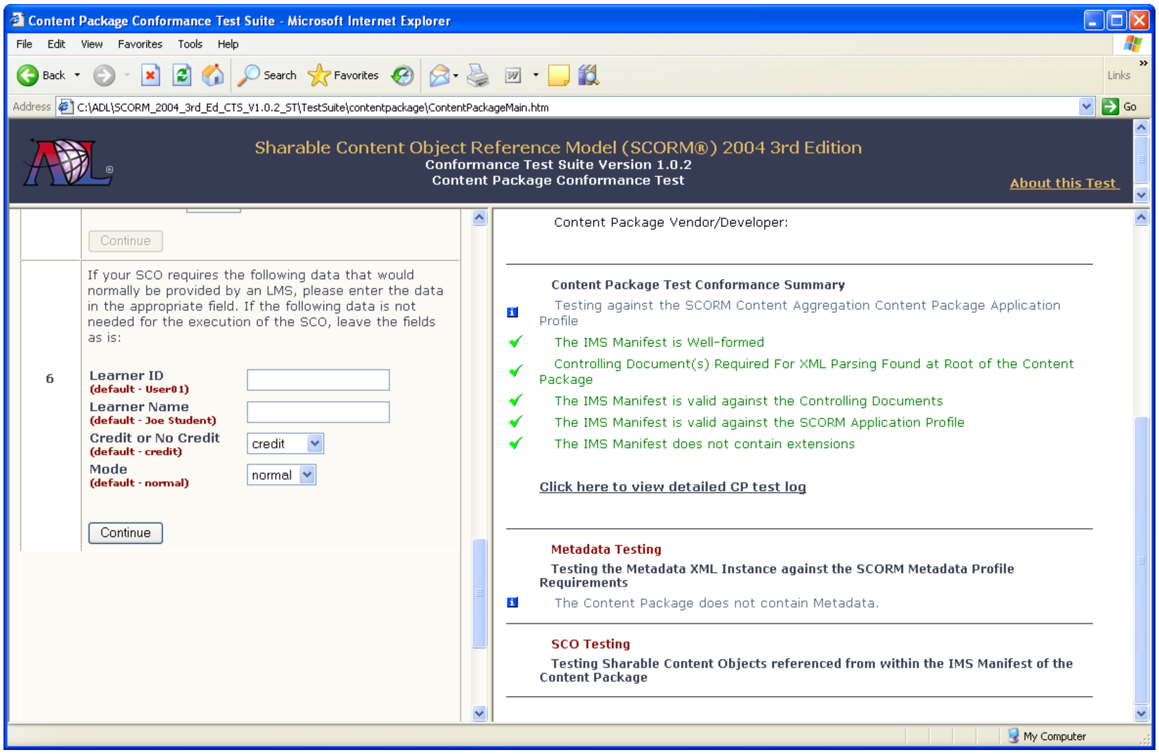
Figure F6

8. Click the “Continue” button to enter the SCO Test Suite Portion of the test.

   Note: The right frame will not change until the first SCO has been launched.

9. On the left frame, scroll down and enter the Learner ID and Learner Name, Credit or No Credit and Mode should normally remain "Credit" and "Normal". Learner ID and Learner Name can be left blank.

   Click the "Continue" button to advance to the next section.



Content Package Conformance Test Suite - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address C:\ADL\SCORM_2004_3rd_Ed_CTS_V1.0.2_ST\TestSuite\contentpackage\ContentPackageMain.htm
Go
Links
My Computer

Sharable Content Object Reference Model (SCORM®) 2004 3rd Edition
Conformance Test Suite Version 1.0.2
Content Package Conformance Test

About this Test

Continue

If your SCO requires the following data that would normally be provided by an LMS, please enter the data in the appropriate field. If the following data is not needed for the execution of the SCO, leave the fields as is:

6

Learner ID (default - User01)	
Learner Name (default - Joe Student)	
Credit or No Credit (default - credit)	credit
Mode (default - normal)	normal

Continue

Content Package Vendor/Developer:

Content Package Test Conformance Summary

- Testing against the SCORM Content Aggregation Content Package Application Profile
- ✓ The IMS Manifest is Well-formed
- ✓ Controlling Document(s) Required For XML Parsing Found at Root of the Content Package
- ✓ The IMS Manifest is valid against the Controlling Documents
- ✓ The IMS Manifest is valid against the SCORM Application Profile
- ✓ The IMS Manifest does not contain extensions

Click here to view detailed CP test log

Metadata Testing

Testing the Metadata XML Instance against the SCORM Metadata Profile Requirements

- The Content Package does not contain Metadata.

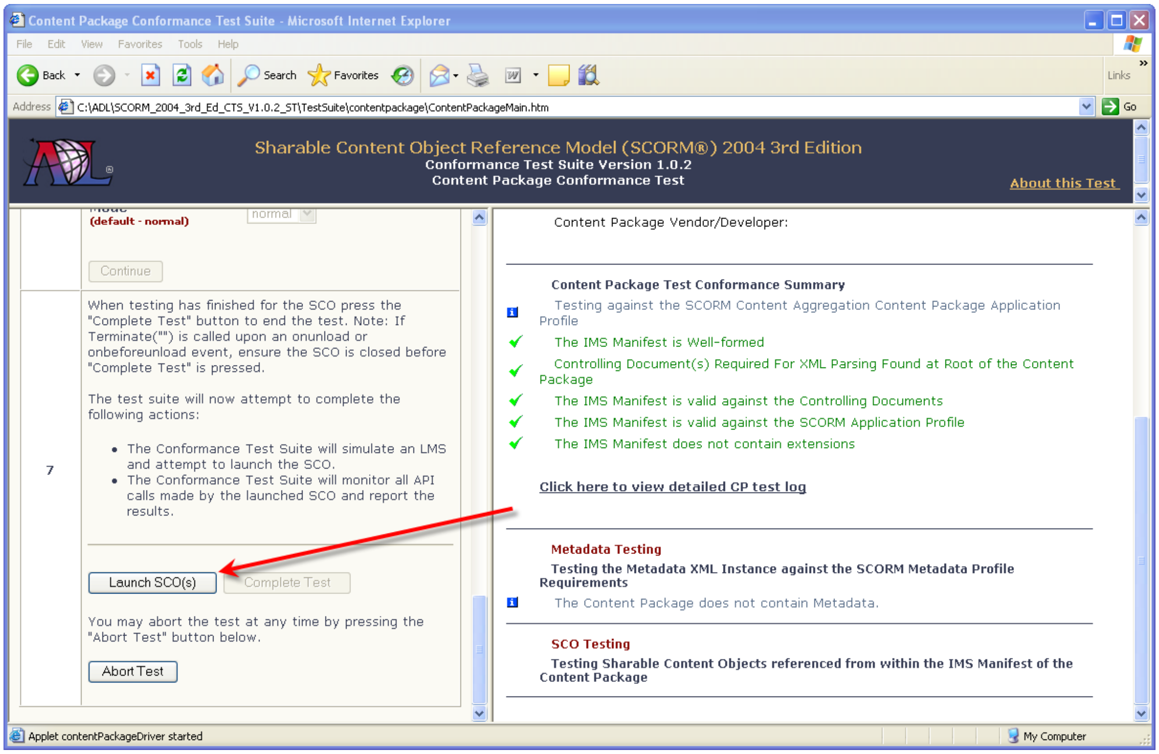
SCO Testing

Testing Sharable Content Objects referenced from within the IMS Manifest of the Content Package

Figure F7

10. The next frame presents the Launch SCO(s) button. Clicking this button will begin the ADL Certification Test Suite SCO Run-time Environment (RTE) test for the Content Package's first SCO.

    Click the "Launch SCO(s) button


Content Package Conformance Test Suite - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back
Search
Favorites
Links
Address
C:\ADL\SCORM_2004_3rd_Ed_CTS_V1.0.2_ST\TestSuite\contentpackage\ContentPackageMain.htm
Go
Applet contentPackageDriver started
My Computer

Sharable Content Object Reference Model (SCORM®) 2004 3rd Edition
Conformance Test Suite Version 1.0.2
Content Package Conformance Test

About this Test

(default - normal)

7

When testing has finished for the SCO press the "Complete Test" button to end the test. Note: If Terminate("") is called upon an onunload or onbeforeunload event, ensure the SCO is closed before "Complete Test" is pressed.

The test suite will now attempt to complete the following actions:

- The Conformance Test Suite will simulate an LMS and attempt to launch the SCO.
- The Conformance Test Suite will monitor all API calls made by the launched SCO and report the results.

You may abort the test at any time by pressing the "Abort Test" button below.

Content Package Vendor/Developer:

Content Package Test Conformance Summary

- i Testing against the SCORM Content Aggregation Content Package Application Profile
- ✓ The IMS Manifest is Well-formed
- ✓ Controlling Document(s) Required For XML Parsing Found at Root of the Content Package
- ✓ The IMS Manifest is valid against the Controlling Documents
- ✓ The IMS Manifest is valid against the SCORM Application Profile
- ✓ The IMS Manifest does not contain extensions

Click here to view detailed CP test log

Metadata Testing

Testing the Metadata XML Instance against the SCORM Metadata Profile Requirements

- i The Content Package does not contain Metadata.

SCO Testing

Testing Sharable Content Objects referenced from within the IMS Manifest of the Content Package

Figure F8

The launched SCO should be presented similar to being launched from by LMS for presentation to a learner. In our test case the screen for the first SCO appears as below:

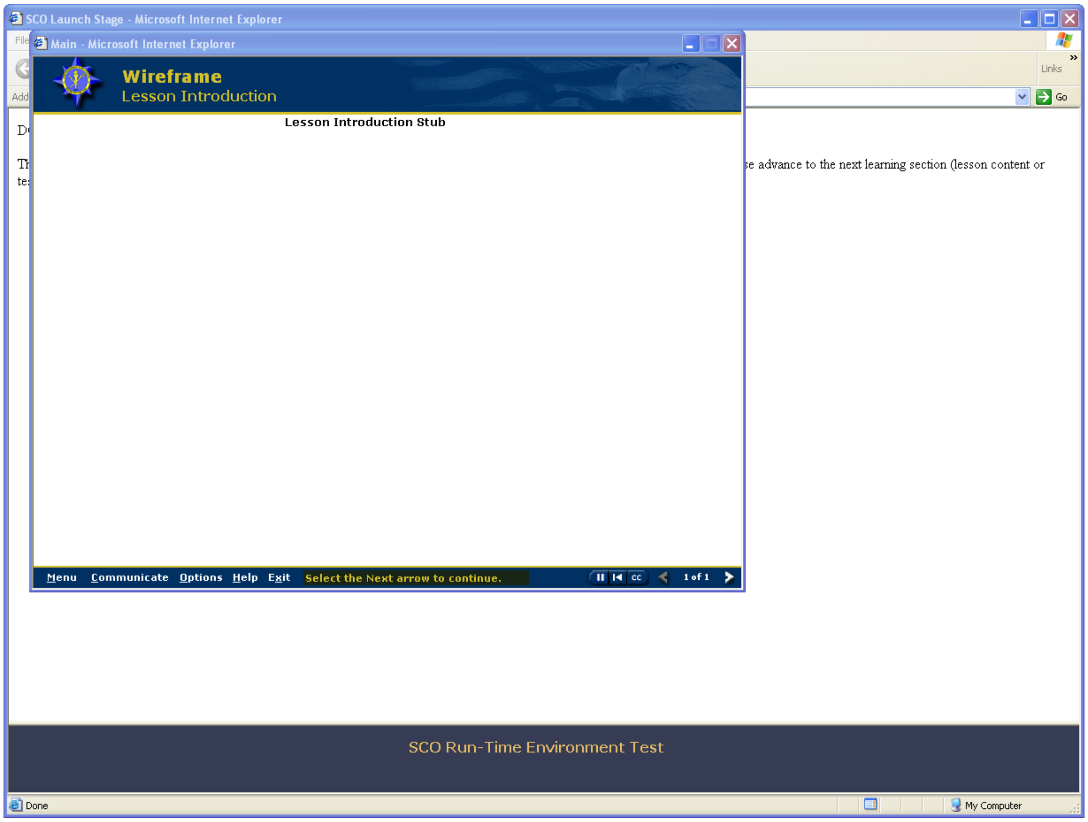

SCO Launch Stage - Microsoft Internet Explorer
Main - Microsoft Internet Explorer
Wireframe
Lesson Introduction
Lesson Introduction Stub
e advance to the next learning section (lesson content or
Menu
Communicate
Options
Help
Exit
Select the Next arrow to continue.
1 of 1
Links
Go
SCO Run-Time Environment Test
Done
My Computer

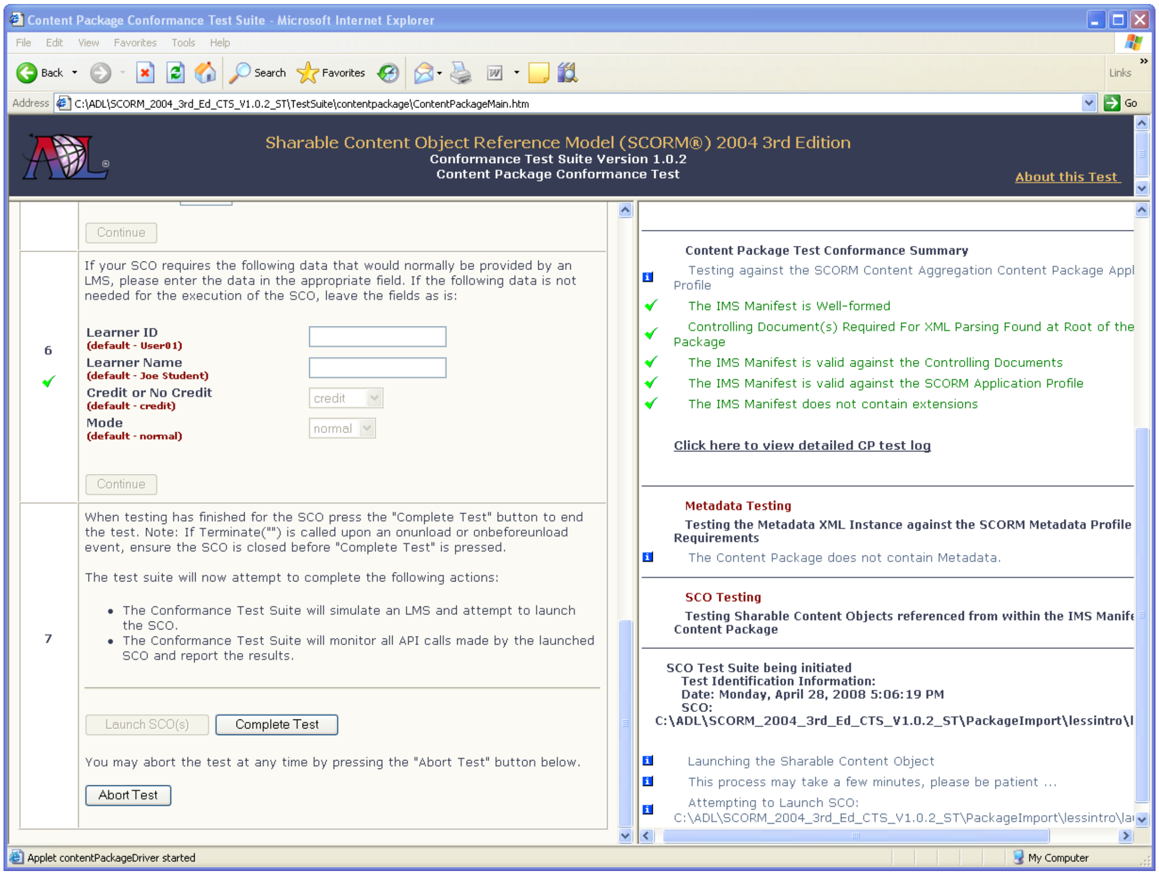
Figure F9

11. Begin the learning experience presented by the SCO.

    - For a SCO without an Examination – Choose a path through the SCO like a student. The Courseware Tester may or may not exercise all possible paths through a SCO. The testing will report those API calls and tracking data elements that were found through normal navigation through the SCO.
    - For a SCO with an Examination – Use the answer key to take the exam.

12. Click appropriate button in the courseware (either exit, complete, or finish) to exit the SCO. If no buttons are supplied, it may be appropriate to close the browser window by clicking on the X in the upper right hand corner.

After entering the proper learner interactions in the SCO upon exiting the SCO the ADL CTS screen will appear like below (with the ‘Complete Test’ button active):


Content Package Conformance Test Suite - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back
Search
Favorites
Links
Address
Go

C:\ADL\SCORM_2004_3rd_Ed_CTS_V1.0.2_ST\TestSuite\contentpackage\ContentPackageMain.htm

Sharable Content Object Reference Model (SCORM®) 2004 3rd Edition
Conformance Test Suite Version 1.0.2
Content Package Conformance Test

6 ✓

If your SCO requires the following data that would normally be provided by an LMS, please enter the data in the appropriate field. If the following data is not needed for the execution of the SCO, leave the fields as is:

Learner ID (default - User01)	
Learner Name (default - Joe Student)	
Credit or No Credit (default - credit)	credit
Mode (default - normal)	normal

7

When testing has finished for the SCO press the "Complete Test" button to end the test. Note: If Terminate("") is called upon an onunload or onbeforeunload event, ensure the SCO is closed before "Complete Test" is pressed.

The test suite will now attempt to complete the following actions:

- The Conformance Test Suite will simulate an LMS and attempt to launch the SCO.
- The Conformance Test Suite will monitor all API calls made by the launched SCO and report the results.

You may abort the test at any time by pressing the "Abort Test" button below.

Content Package Test Conformance Summary

i Testing against the SCORM Content Aggregation Content Package Appl Profile

✓ The IMS Manifest is Well-formed

✓ Controlling Document(s) Required For XML Parsing Found at Root of the Package

✓ The IMS Manifest is valid against the Controlling Documents

✓ The IMS Manifest is valid against the SCORM Application Profile

✓ The IMS Manifest does not contain extensions

Click here to view detailed CP test log

Metadata Testing

Testing the Metadata XML Instance against the SCORM Metadata Profile Requirements

i The Content Package does not contain Metadata.

SCO Testing

Testing Sharable Content Objects referenced from within the IMS Manife Content Package

SCO Test Suite being initiated
Test Identification Information:
Date: Monday, April 28, 2008 5:06:19 PM
SCO:
C:\ADL\SCORM_2004_3rd_Ed_CTS_V1.0.2_ST\PackageImport\lessintro\l

i Launching the Sharable Content Object

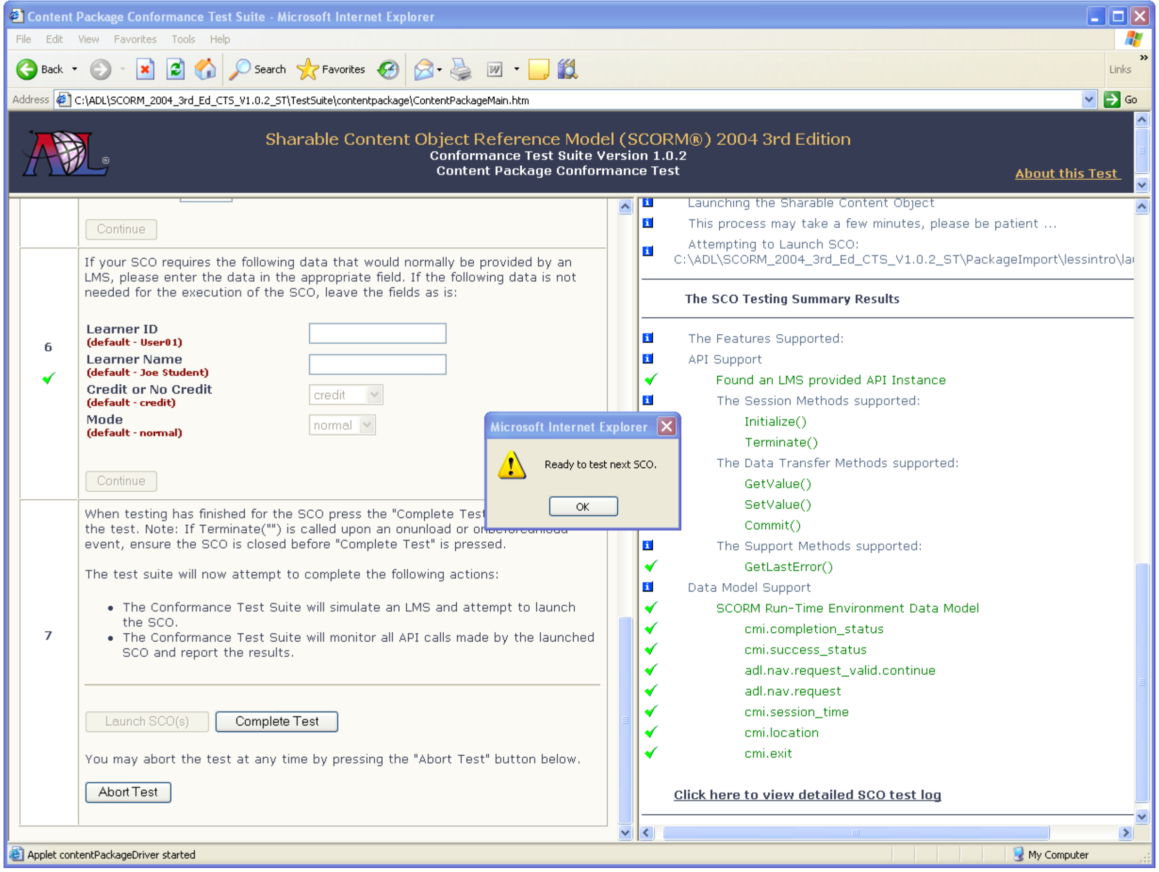
i This process may take a few minutes, please be patient ...

i Attempting to Launch SCO:
C:\ADL\SCORM_2004_3rd_Ed_CTS_V1.0.2_ST\PackageImport\lessintro\la

Applet contentPackageDriver started

Figure F10

13. Clicking the “Complete Test” button will trigger the ADL CTS to complete the processing of the current SCO, display results and present the control to initiate the next SCO. For a successful SCO the screen will appear as below:


Content Package Conformance Test Suite - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back
Search
Favorites
Links
Address
Go
About this Test
Continue
Continue
Launch SCO(s)
Complete Test
Abort Test
Microsoft Internet Explorer
OK
My Computer

C:\ADL\SCORM_2004_3rd_Ed_CTS_V1.0.2_ST\TestSuite\contentpackage\ContentPackageMain.htm

Sharable Content Object Reference Model (SCORM®) 2004 3rd Edition
Conformance Test Suite Version 1.0.2
Content Package Conformance Test

6 ✓ If your SCO requires the following data that would normally be provided by an LMS, please enter the data in the appropriate field. If the following data is not needed for the execution of the SCO, leave the fields as is:

Learner ID (default - User01)
Learner Name (default - Joe Student)
Credit or No Credit (default - credit): credit
Mode (default - normal): normal

7 When testing has finished for the SCO press the "Complete Test the test. Note: If Terminate("") is called upon an onunload or on event, ensure the SCO is closed before "Complete Test" is pressed.

The test suite will now attempt to complete the following actions:

- The Conformance Test Suite will simulate an LMS and attempt to launch the SCO.
- The Conformance Test Suite will monitor all API calls made by the launched SCO and report the results.

You may abort the test at any time by pressing the "Abort Test" button below.

Ready to test next SCO.

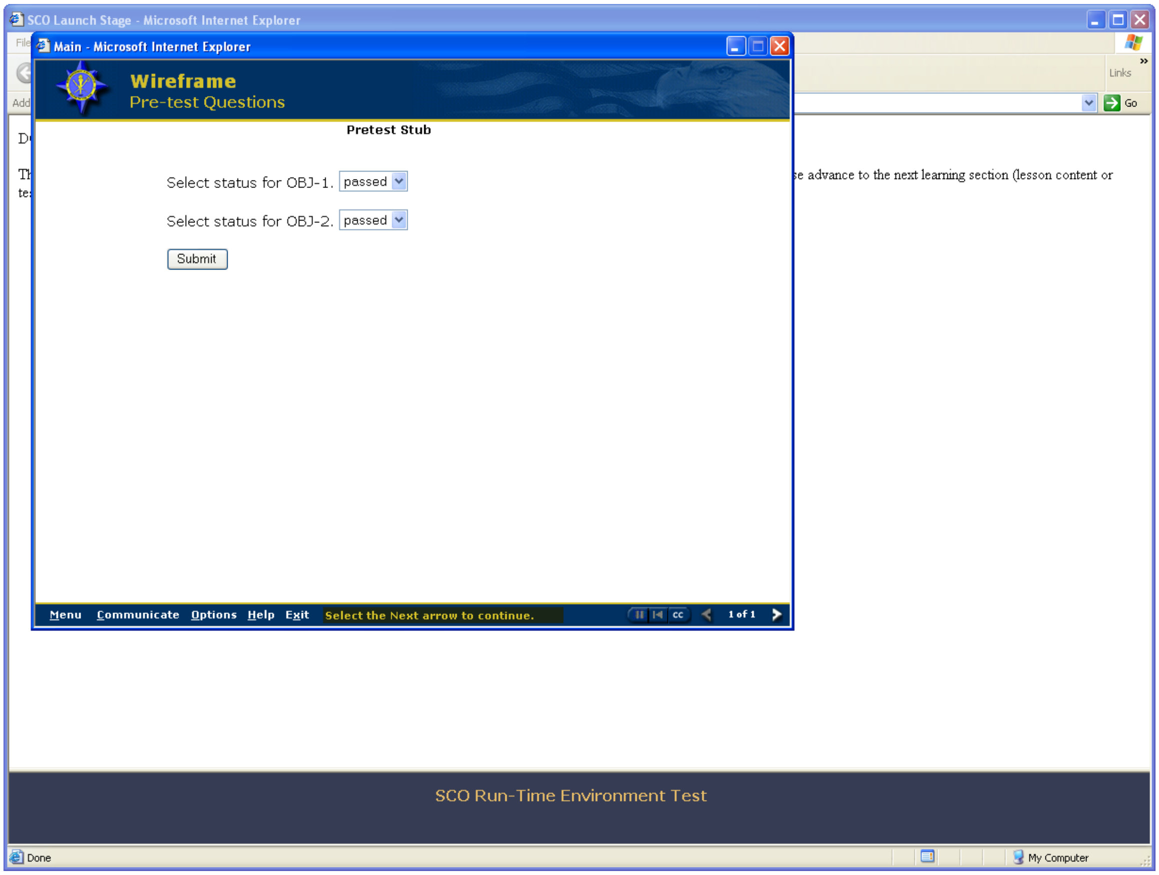
```
i  Launching the Sharable Content Object
i  This process may take a few minutes, please be patient ...
i  Attempting to Launch SCO:
   C:\ADL\SCORM_2004_3rd_Ed_CTS_V1.0.2_ST\PackageImport\lessintro\la

   The SCO Testing Summary Results

i  The Features Supported:
i  API Support
✓      Found an LMS provided API Instance
i      The Session Methods supported:
           Initialize()
           Terminate()
       The Data Transfer Methods supported:
           GetValue()
           SetValue()
           Commit()
i      The Support Methods supported:
✓          GetLastError()
i  Data Model Support
✓      SCORM Run-Time Environment Data Model
✓          cmi.completion_status
✓          cmi.success_status
✓          adl.nav.request_valid.continue
✓          adl.nav.request
✓          cmi.session_time
✓          cmi.location
✓          cmi.exit

   Click here to view detailed SCO test log
```

Applet contentPackageDriver started

Figure F11

14. IF the Run-time test was successful SCO Run-time Environment testing can continue. Click the “OK” button in the “ready to test next SCO” window.

After clicking the ‘OK’ button in the ‘ready to test next SCO’ window, the next SCO will be launched and will be presented similar to being launched from an LMS. The next screen should be just as a learner would see the SCO, similar to:


SCO Launch Stage - Microsoft Internet Explorer
Main - Microsoft Internet Explorer
Wireframe
Pre-test Questions
Links
Go
e advance to the next learning section (lesson content or
Menu
Communicate
Options
Help
Exit
Select the Next arrow to continue.
1 of 1
SCO Run-Time Environment Test
Done
My Computer

Pretest Stub

Select status for OBJ-1. passed

Select status for OBJ-2. passed

Submit

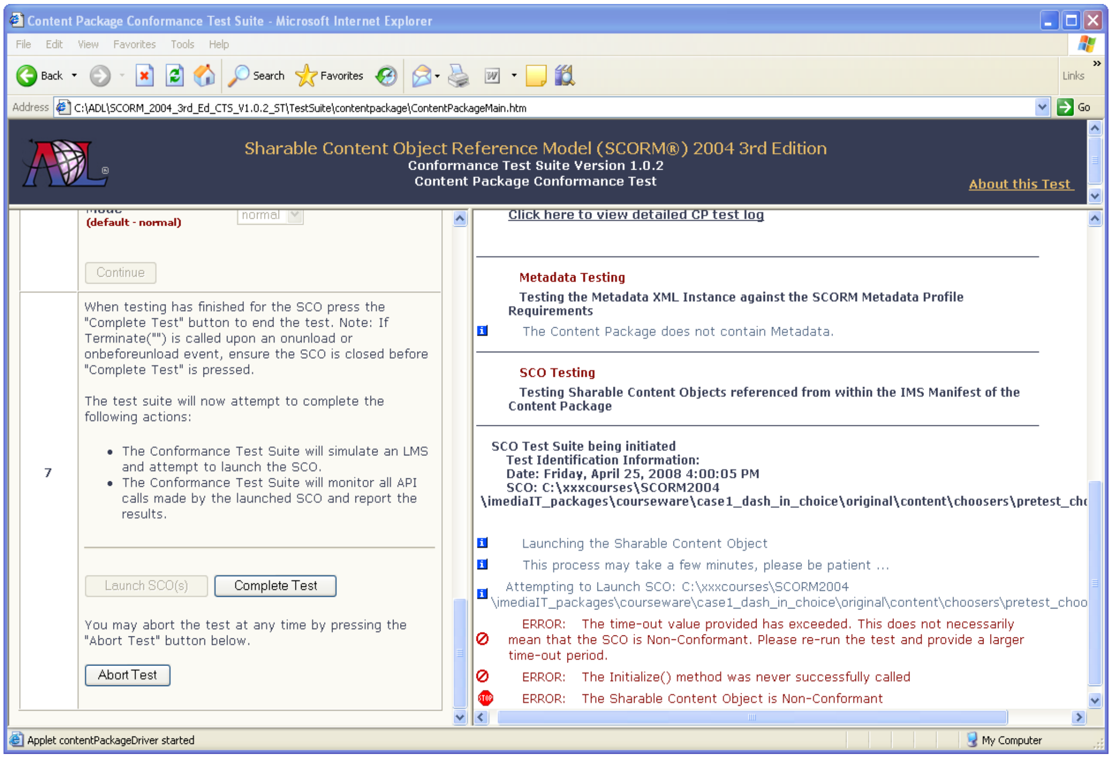
Figure F12

15. This process will continue until the all SCOs in the Content Package have been completed.

This process has two significant benefits over using the “Sharable Content Object (SCO) Run-time Environment Conformance Utility Test” to generate the required Run-time logs

- The tedious data entry required for each SCO is eliminated
- The resulting log files include all necessary logs for submission to ATSC testing in one single directory.

16. The following screen is presented to illustrate the display when a SCO is determined to be Non-Conformant.


Content Package Conformance Test Suite - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back
Search
Favorites
Links
Address
C:\ADL\SCORM_2004_3rd_Ed_CTS_V1.0.2_ST\TestSuite\contentpackage\ContentPackageMain.htm
Go
About this Test
normal
Continue
Launch SCO(s)
Complete Test
Abort Test
Applet contentPackageDriver started
My Computer

Sharable Content Object Reference Model (SCORM®) 2004 3rd Edition
Conformance Test Suite Version 1.0.2
Content Package Conformance Test

(default - normal)

7

When testing has finished for the SCO press the "Complete Test" button to end the test. Note: If Terminate("") is called upon an onunload or onbeforeunload event, ensure the SCO is closed before "Complete Test" is pressed.

The test suite will now attempt to complete the following actions:

- The Conformance Test Suite will simulate an LMS and attempt to launch the SCO.
- The Conformance Test Suite will monitor all API calls made by the launched SCO and report the results.

You may abort the test at any time by pressing the "Abort Test" button below.

Click here to view detailed CP test log

Metadata Testing

Testing the Metadata XML Instance against the SCORM Metadata Profile Requirements

The Content Package does not contain Metadata.

SCO Testing

Testing Sharable Content Objects referenced from within the IMS Manifest of the Content Package

SCO Test Suite being initiated
Test Identification Information:
Date: Friday, April 25, 2008 4:00:05 PM
SCO: C:\xxxcourses\SCORM2004
\imediaIT_packages\courseware\case1_dash_in_choice\original\content\choosers\pretest_chc

Launching the Sharable Content Object

This process may take a few minutes, please be patient ...

Attempting to Launch SCO: C:\xxxcourses\SCORM2004
\imediaIT_packages\courseware\case1_dash_in_choice\original\content\choosers\pretest_choo

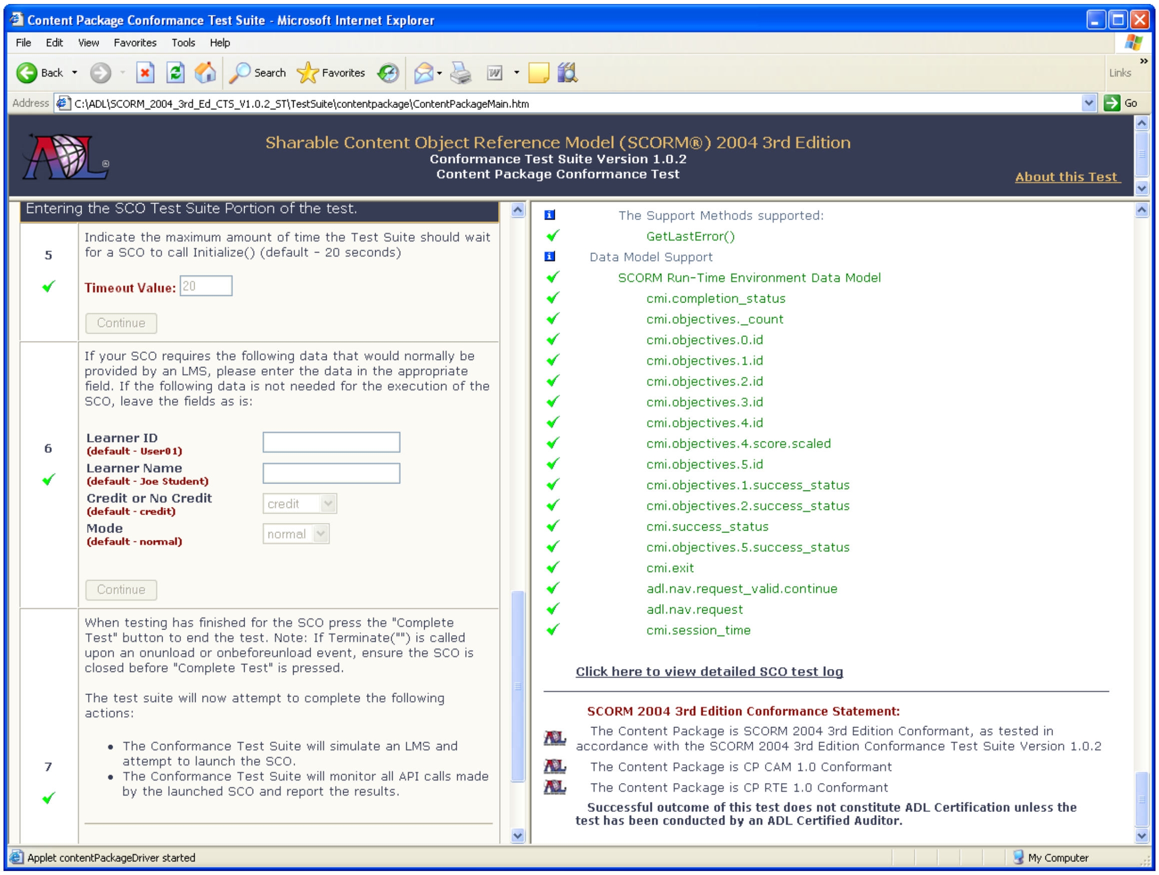
ERROR: The time-out value provided has exceeded. This does not necessarily mean that the SCO is Non-Conformant. Please re-run the test and provide a larger time-out period.

ERROR: The Initialize() method was never successfully called

ERROR: The Sharable Content Object is Non-Conformant

Figure F13

17. The ADL CTS screen will appear similar to the following after successful execution for all SCOs in the Content Package:


Content Package Conformance Test Suite - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back
Search
Favorites
Links
Address
C:\ADL\SCORM_2004_3rd_Ed_CTS_V1.0.2_ST\TestSuite\contentpackage\ContentPackageMain.htm
Go
About this Test
Continue
Continue
Applet contentPackageDriver started
My Computer

Sharable Content Object Reference Model (SCORM®) 2004 3rd Edition
Conformance Test Suite Version 1.0.2
Content Package Conformance Test

Entering the SCO Test Suite Portion of the test.

5 ✓ Indicate the maximum amount of time the Test Suite should wait for a SCO to call Initialize() (default - 20 seconds)

Timeout Value: 20

6 ✓ If your SCO requires the following data that would normally be provided by an LMS, please enter the data in the appropriate field. If the following data is not needed for the execution of the SCO, leave the fields as is:

Learner ID (default - User01)
Learner Name (default - Joe Student)
Credit or No Credit (default - credit): credit
Mode (default - normal): normal

7 ✓ When testing has finished for the SCO press the "Complete Test" button to end the test. Note: If Terminate("") is called upon an onunload or onbeforeunload event, ensure the SCO is closed before "Complete Test" is pressed.

The test suite will now attempt to complete the following actions:

- The Conformance Test Suite will simulate an LMS and attempt to launch the SCO.
- The Conformance Test Suite will monitor all API calls made by the launched SCO and report the results.

```
ℹ         The Support Methods supported:
✓             GetLastError()
ℹ     Data Model Support
✓         SCORM Run-Time Environment Data Model
✓             cmi.completion_status
✓             cmi.objectives._count
✓             cmi.objectives.0.id
✓             cmi.objectives.1.id
✓             cmi.objectives.2.id
✓             cmi.objectives.3.id
✓             cmi.objectives.4.id
✓             cmi.objectives.4.score.scaled
✓             cmi.objectives.5.id
✓             cmi.objectives.1.success_status
✓             cmi.objectives.2.success_status
✓             cmi.success_status
✓             cmi.objectives.5.success_status
✓             cmi.exit
✓             adl.nav.request_valid.continue
✓             adl.nav.request
✓             cmi.session_time
```

Click here to view detailed SCO test log

SCORM 2004 3rd Edition Conformance Statement:

The Content Package is SCORM 2004 3rd Edition Conformant, as tested in accordance with the SCORM 2004 3rd Edition Conformance Test Suite Version 1.0.2

The Content Package is CP CAM 1.0 Conformant

The Content Package is CP RTE 1.0 Conformant

Successful outcome of this test does not constitute ADL Certification unless the test has been conducted by an ADL Certified Auditor.

Figure F14

18. Notice the SCORM 2004 3rd Edition Conformance Statement indicating success and the ‘Click here to view detailed SCO test log” hyperlink.

19. Continue scrolling and recognizing Conformance Ratings for all SCOs tested by clicking the “Click here to view detailed SCO test log” and reviewing the detailed results.

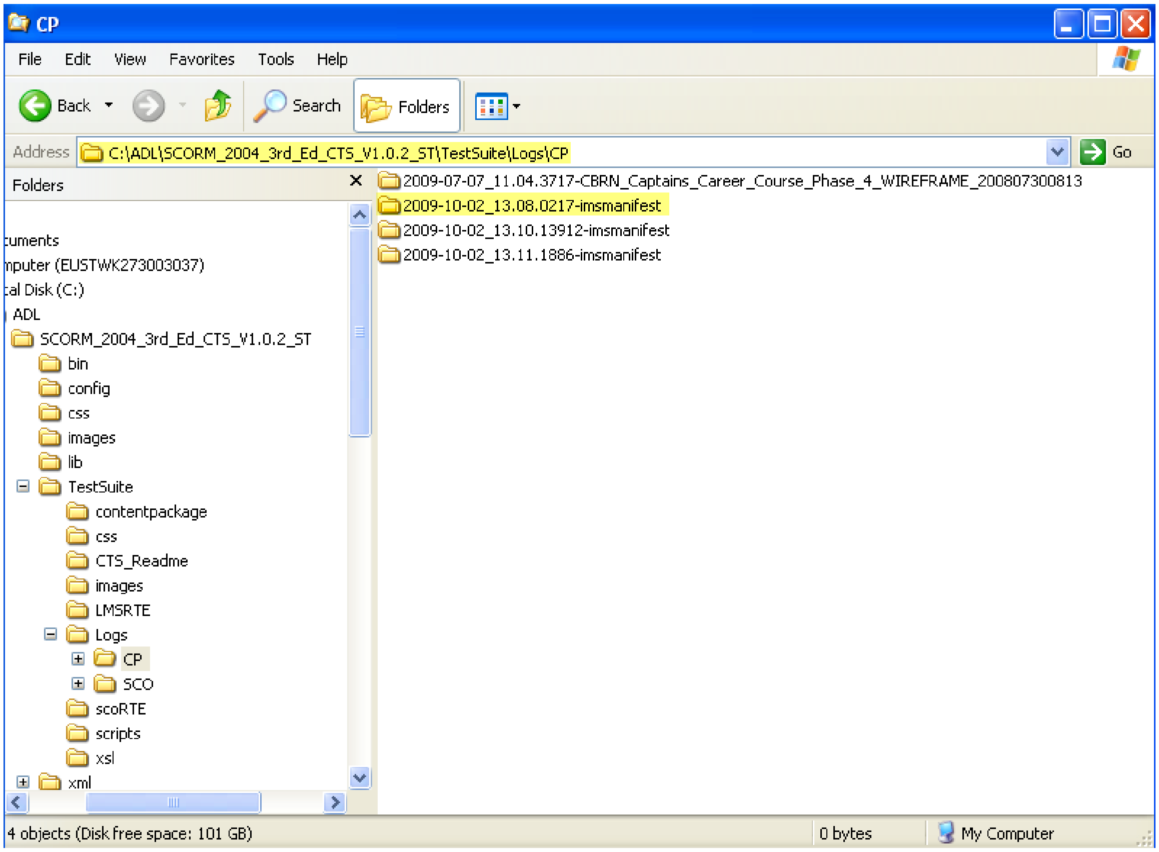
NOTE: Where one SCO ends and displays the Conformance Rating, the next SCO begins in the Summary Log. Each new SCO has the heading “**The SCO Testing Summary Results**”

Ensure that each SCO is conformant and progress through the log file accordingly, making notes if necessary. When all SCO’s are reported as conformant you have a successful run.

Submitting Content Package Conformance Test Results

At the file path highlighted below, select the folder containing your log files and “zip” it up. Submit the zipped file for your content package conformance test logs.

Submitted zip file name: Prefix the dual run CP log package (zip file) with Run-time with “CP_RTE”; for example, “CP_RTE_2009-10-02_13.08.0217-imsmanifest.zip”.



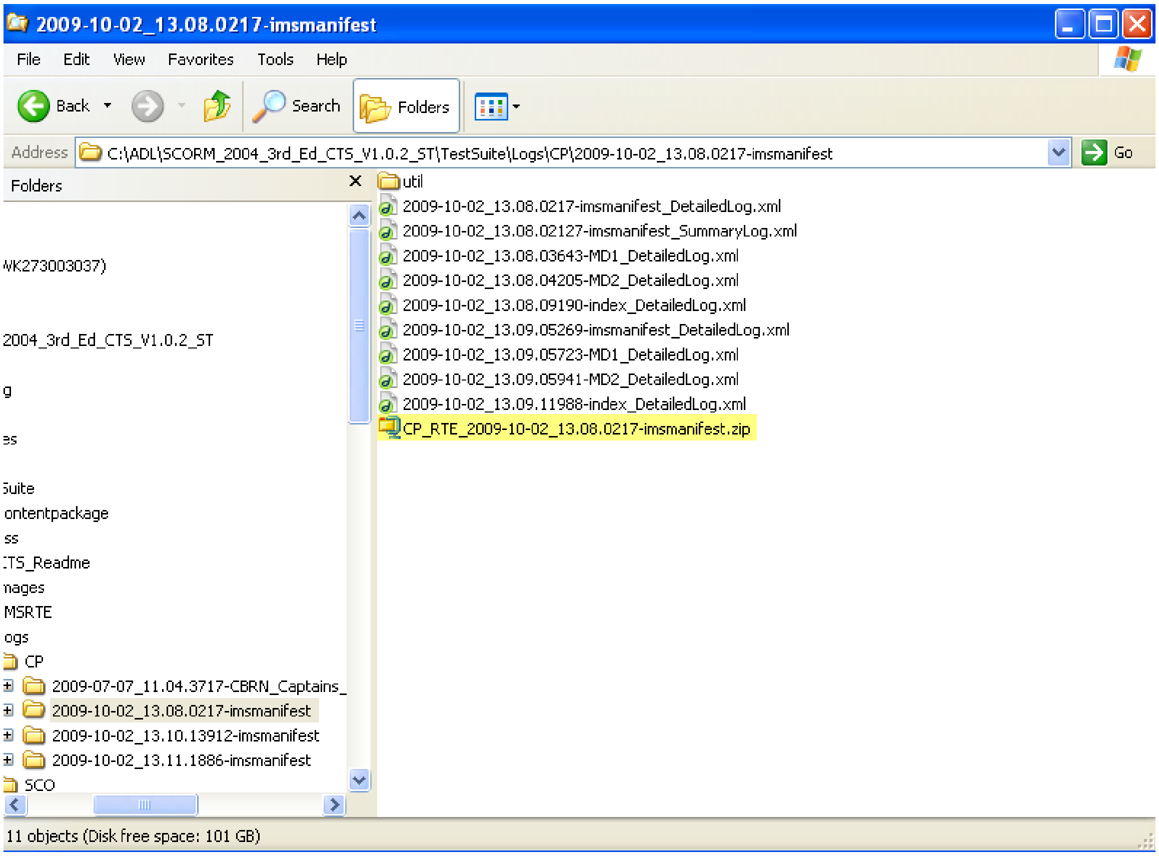
C:\ADL\SCORM_2004_3rd_Ed_CTS_V1.0.2_ST\TestSuite\Logs\CP

2009-07-07_11.04.3717-CBRN_Captains_Career_Course_Phase_4_WIREFRAME_200807300813
2009-10-02_13.08.0217-imsmanifest
2009-10-02_13.10.13912-imsmanifest
2009-10-02_13.11.1886-imsmanifest

cuments
mputer (EUSTWK273003037)
cal Disk (C:)
ADL
SCORM_2004_3rd_Ed_CTS_V1.0.2_ST
bin
config
css
images
lib
TestSuite
contentpackage
css
CTS_Readme
images
LMSRTE
Logs
CP
SCO
scoRTE
scripts
xsl
xml

4 objects (Disk free space: 101 GB) | 0 bytes | My Computer

Figure F15



C:\ADL\SCORM_2004_3rd_Ed_CTS_V1.0.2_ST\TestSuite\Logs\CP\2009-10-02_13.08.0217-imsmanifest

```
VK273003037)
2004_3rd_Ed_CTS_V1.0.2_ST
g
es
Suite
ontentpackage
ss
CTS_Readme
nages
MSRTE
ogs
CP
2009-07-07_11.04.3717-CBRN_Captains_
2009-10-02_13.08.0217-imsmanifest
2009-10-02_13.10.13912-imsmanifest
2009-10-02_13.11.1886-imsmanifest
SCO
```

```
util
2009-10-02_13.08.0217-imsmanifest_DetailedLog.xml
2009-10-02_13.08.02127-imsmanifest_SummaryLog.xml
2009-10-02_13.08.03643-MD1_DetailedLog.xml
2009-10-02_13.08.04205-MD2_DetailedLog.xml
2009-10-02_13.08.09190-index_DetailedLog.xml
2009-10-02_13.09.05269-imsmanifest_DetailedLog.xml
2009-10-02_13.09.05723-MD1_DetailedLog.xml
2009-10-02_13.09.05941-MD2_DetailedLog.xml
2009-10-02_13.09.11988-index_DetailedLog.xml
CP_RTE_2009-10-02_13.08.0217-imsmanifest.zip
```

11 objects (Disk free space: 101 GB)

Figure F16

APPENDIX G – Resource Validator (RV)

1. This program ensures that the "imsmanifest.xml" file (hereafter referred to as the manifest) and the courseware content package are "complete" and in synchronization with one another. See Appendix C for a more detailed explanation of this program.

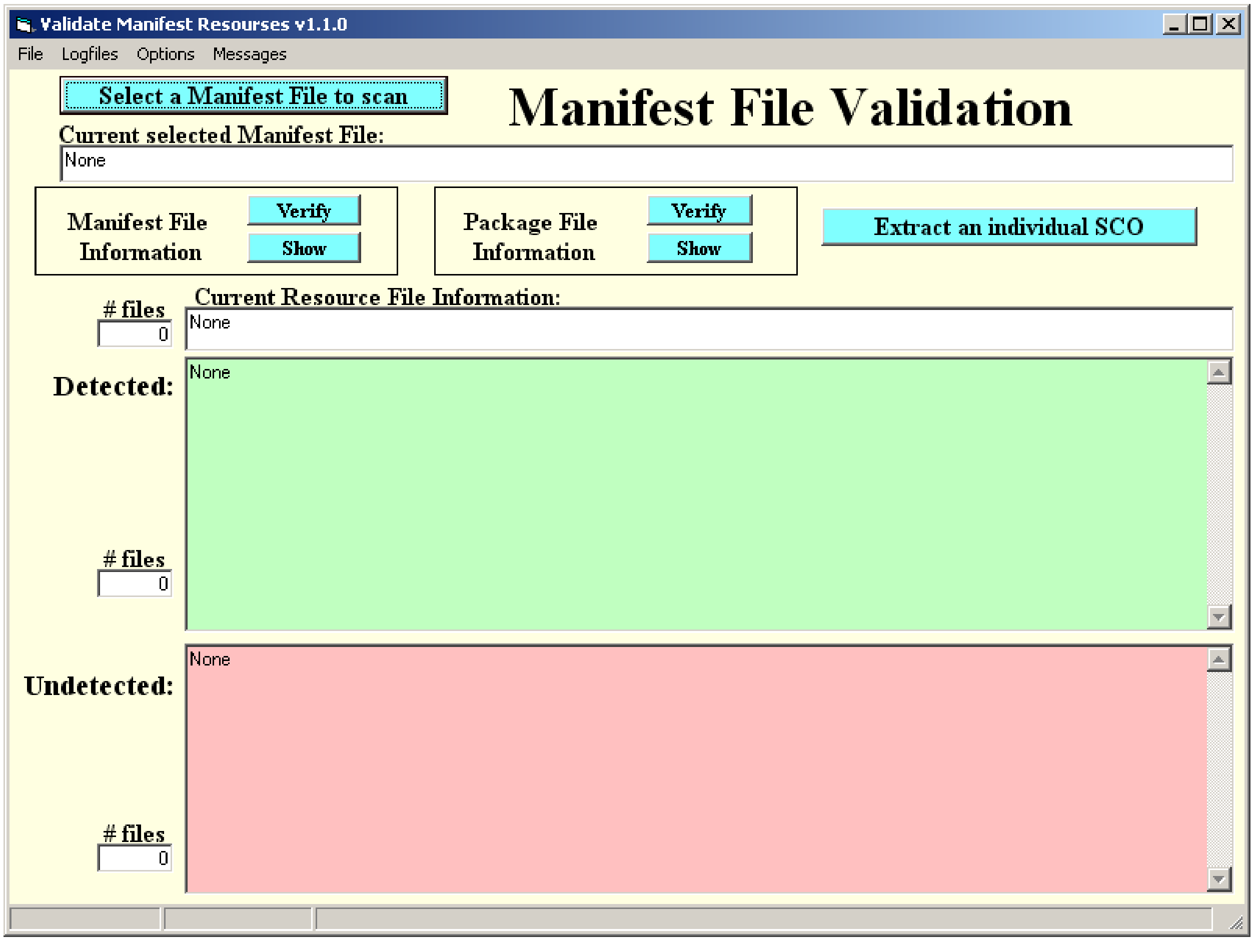
2. The Resource Validator performs two tests on the courseware:

   - Manifest File Validation – verifies if the files listed on the manifest actually exist in the courseware content package (remember, the manifest location identifies the root folder). Note that this test is included in option 4 of the ADL SCORM Test Suite; however, using the Resource Validator, validation of the files on the manifest can be achieved even when the ADL Test Suite will abort due to fatal SCORM errors. Finally, all external URIs on the manifest are verified that the link exists.

   - Package (Disk) File Validation – verifies files that are contained in the courseware content package are listed on the manifest. This test will determine whether the manifest is a "complete" or "incomplete" manifest. An "incomplete" manifest is a manifest in which all files needed by the courseware content package are not listed on the manifest.

3. Launch the Resource Validator Program from the desktop icon.

   The Resource Validator program creates a window titled "Validate Manifest Resources". This window has two views; the "Manifest File Validation" display and the "Package (Disk) File Validation" display. These two displays reflect the two tests described in paragraph 2 above. The startup display, "Manifest File Validation", is presented below:



Current selected Manifest File: None

files 0

Current Resource File Information: None

Detected: None

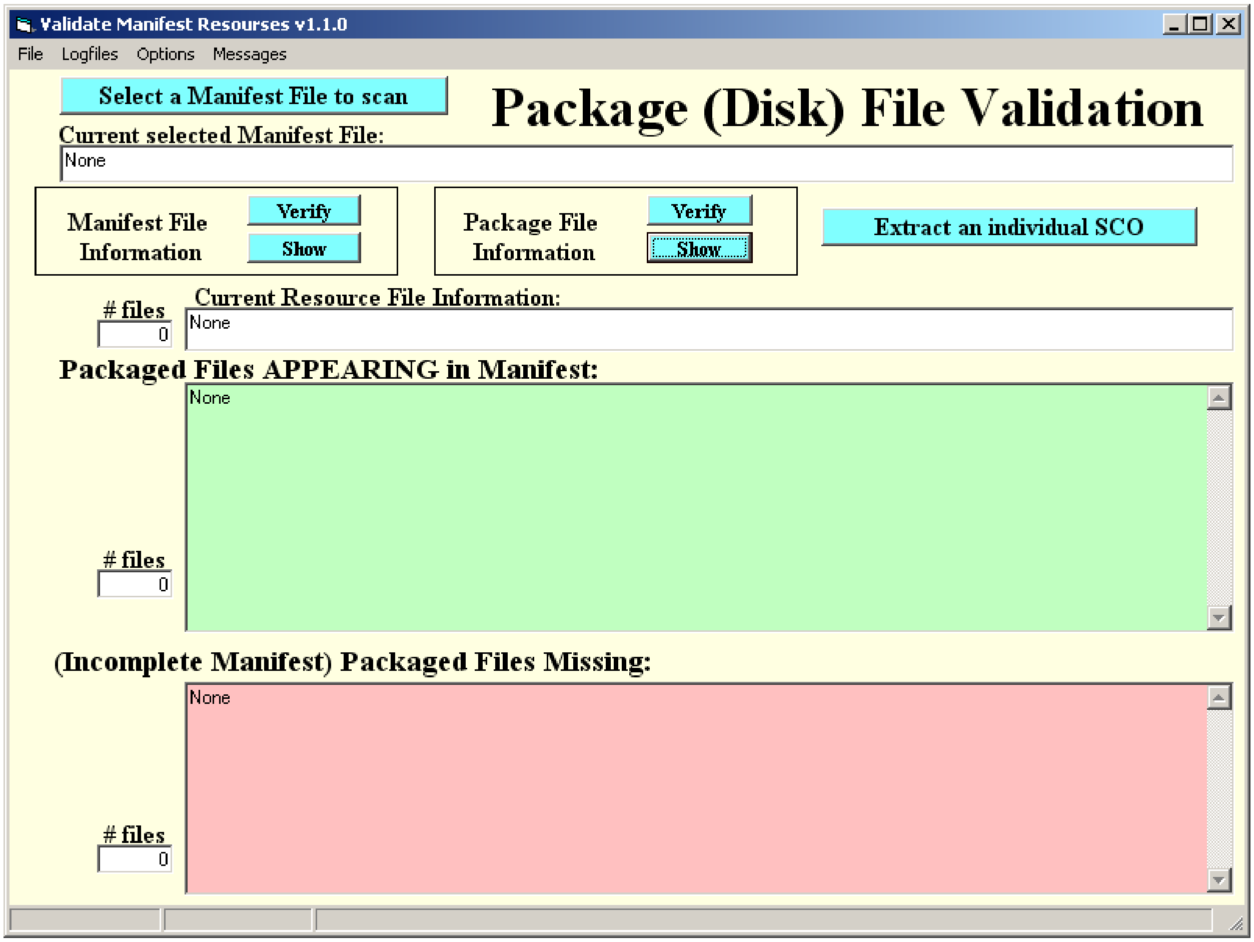
files 0

Undetected: None

files 0

Figure G1

There are the two large option boxes in the Resource Validator window; the "Manifest File Information" box and the "Package File Information" box. These boxes do not change and each box contains a "Show" button. A "Show" button may be clicked at any time to force the appropriate display to be presented. Below is the Resource Validator window after clicking the "Show" button in the "Package File Information" box. Notice that the Resource Validator window is the "Package (Disk) File Validation" display.


Validate Manifest Resourses v1.1.0
File
Logfiles
Options
Messages
Select a Manifest File to scan
Package (Disk) File Validation
Manifest File Information
Verify
Show
Package File Information
Verify
Show
Extract an individual SCO
Packaged Files APPEARING in Manifest:
(Incomplete Manifest) Packaged Files Missing:

Current selected Manifest File: None

files 0

Current Resource File Information: None

Packaged Files APPEARING in Manifest: None

files 0

(Incomplete Manifest) Packaged Files Missing: None

files 0

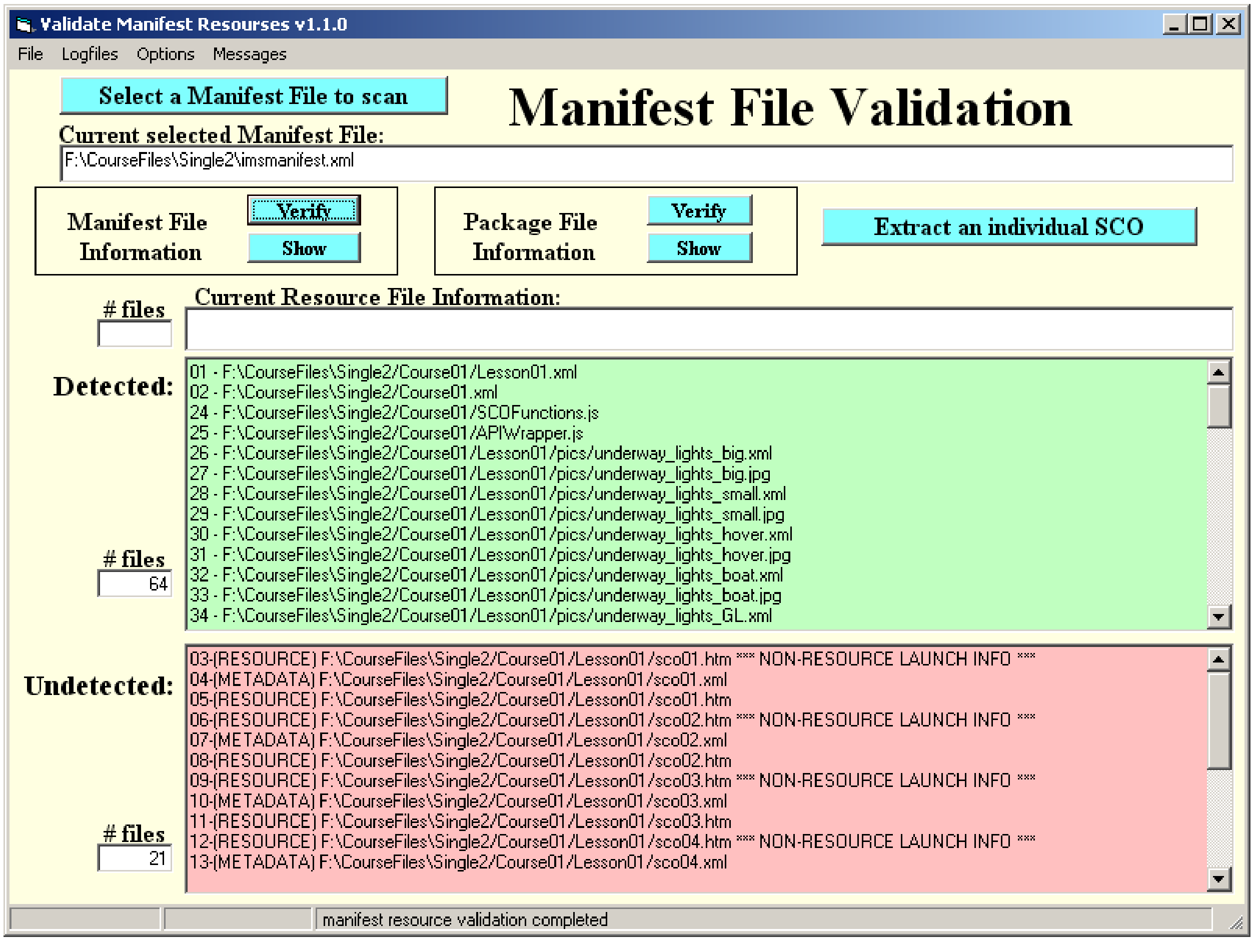
Figure G2

The "Verify" buttons appear in each option box. These two buttons are used to begin the two test processes that are described in paragraph 2 above. The Manifest File Information "Verify" button must be processed before the Package File Information "Verify" button. In other words, every time a new manifest is selected, the first "Verify" button clicked should be the "Verify" button in the "Manifest File Information" box. This design constraint will not cause any loss of data; the Resource Validator is programmed to prevent improper "Verify" button operation.

4. Select the SCORM course or package by clicking on the button labeled "Select a Manifest File to scan". Navigate to, select, and open the manifest in the courseware root folder.

   By default, all URLs will be validated that the link exists (testing computer must have internet access).

5. Under the "Options" menu, turn on "Translate URIs".
6. Validate the manifest file by clicking the "Verify" button in the "Manifest File Information" box. The status bar, at the bottom of the window, will indicate completion. After verifying the manifest file information, the Resource Validator window will appear as below:


Validate Manifest Resourses v1.1.0
File
Logfiles
Options
Messages
Select a Manifest File to scan
Manifest File Validation
Manifest File Information
Verify
Show
Package File Information
Verify
Show
Extract an individual SCO
Current Resource File Information:
# files
Detected:
# files
Undetected:
# files

Current selected Manifest File: F:\CourseFiles\Single2\imsmanifest.xml

Detected: # files 64

```
01 - F:\CourseFiles\Single2/Course01/Lesson01.xml
02 - F:\CourseFiles\Single2/Course01.xml
24 - F:\CourseFiles\Single2/Course01/SCOFunctions.js
25 - F:\CourseFiles\Single2/Course01/APIWrapper.js
26 - F:\CourseFiles\Single2/Course01/Lesson01/pics/underway_lights_big.xml
27 - F:\CourseFiles\Single2/Course01/Lesson01/pics/underway_lights_big.jpg
28 - F:\CourseFiles\Single2/Course01/Lesson01/pics/underway_lights_small.xml
29 - F:\CourseFiles\Single2/Course01/Lesson01/pics/underway_lights_small.jpg
30 - F:\CourseFiles\Single2/Course01/Lesson01/pics/underway_lights_hover.xml
31 - F:\CourseFiles\Single2/Course01/Lesson01/pics/underway_lights_hover.jpg
32 - F:\CourseFiles\Single2/Course01/Lesson01/pics/underway_lights_boat.xml
33 - F:\CourseFiles\Single2/Course01/Lesson01/pics/underway_lights_boat.jpg
34 - F:\CourseFiles\Single2/Course01/Lesson01/pics/underway_lights_GL.xml
```

Undetected: # files 21

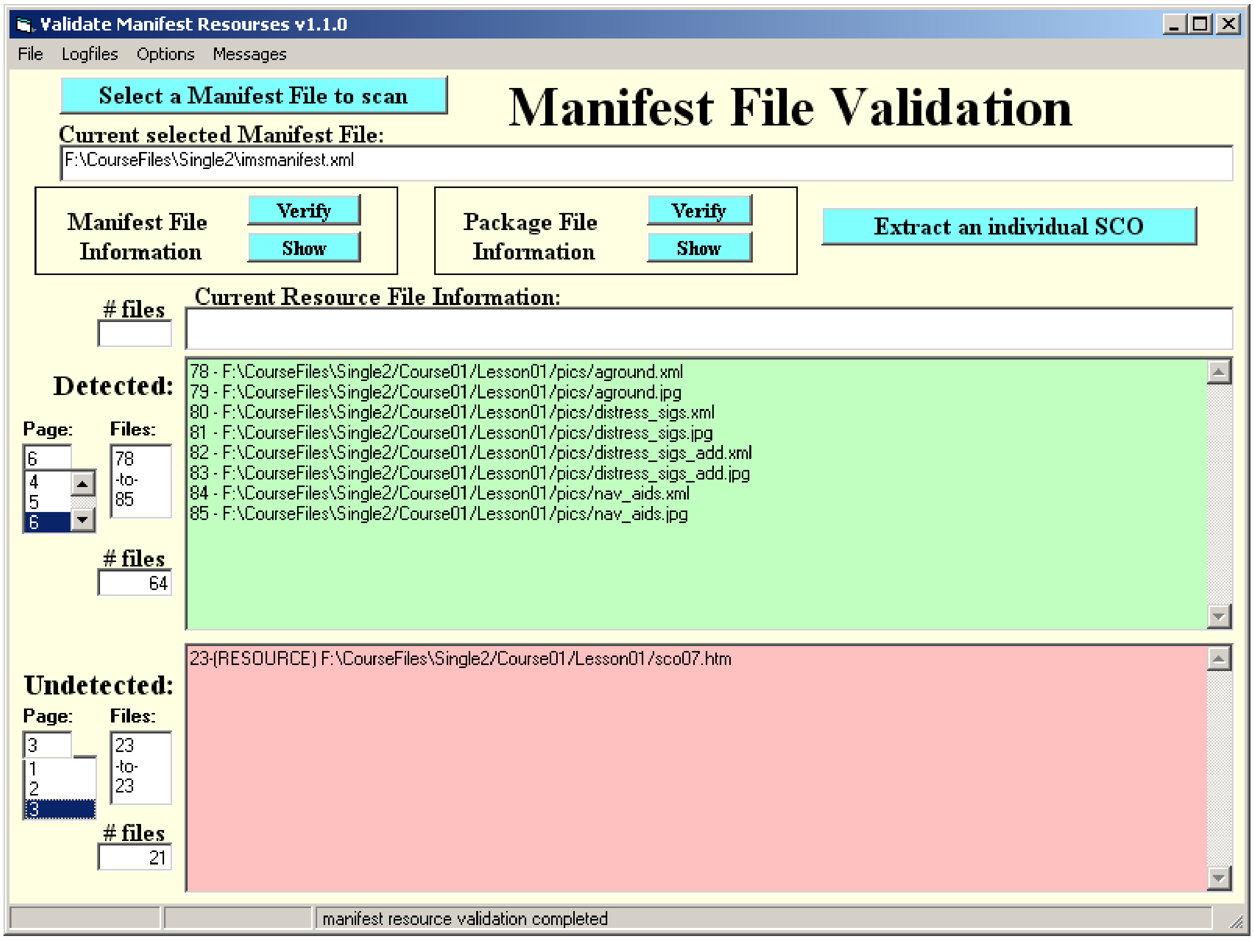
```
03-(RESOURCE) F:\CourseFiles\Single2/Course01/Lesson01/sco01.htm *** NON-RESOURCE LAUNCH INFO ***
04-(METADATA) F:\CourseFiles\Single2/Course01/Lesson01/sco01.xml
05-(RESOURCE) F:\CourseFiles\Single2/Course01/Lesson01/sco01.htm
06-(RESOURCE) F:\CourseFiles\Single2/Course01/Lesson01/sco02.htm *** NON-RESOURCE LAUNCH INFO ***
07-(METADATA) F:\CourseFiles\Single2/Course01/Lesson01/sco02.xml
08-(RESOURCE) F:\CourseFiles\Single2/Course01/Lesson01/sco02.htm
09-(RESOURCE) F:\CourseFiles\Single2/Course01/Lesson01/sco03.htm *** NON-RESOURCE LAUNCH INFO ***
10-(METADATA) F:\CourseFiles\Single2/Course01/Lesson01/sco03.xml
11-(RESOURCE) F:\CourseFiles\Single2/Course01/Lesson01/sco03.htm
12-(RESOURCE) F:\CourseFiles\Single2/Course01/Lesson01/sco04.htm *** NON-RESOURCE LAUNCH INFO ***
13-(METADATA) F:\CourseFiles\Single2/Course01/Lesson01/sco04.xml
```

manifest resource validation completed

Figure G3

NOTE: Reminder, after selecting a manifest file, the "Verify" button in the "Package File Information" box will not operate. The Resource Validator program requires that the manifest be verified before the Package is verified.

Information is provided on which resources (files) are detected (GREEN box) or undetected (RED box). The file display windows in the Resource Validator (GREEN and RED text boxes) are restricted to a little over 64 thousand characters. Drop down page manipulation boxes are displayed whenever more than one box is required to complete a file list presentation. The presentation below is the "Manifest File Validation" display with the "Detected" and "Undetected" file boxes presenting pages 6 and 3, respectively:


Validate Manifest Resourses v1.1.0
File
Logfiles
Options
Messages
Select a Manifest File to scan
Manifest File Validation
Manifest File Information
Verify
Show
Package File Information
Verify
Show
Extract an individual SCO
Current Resource File Information:
Detected:
Undetected:

Current selected Manifest File: F:\CourseFiles\Single2\imsmanifest.xml

files:

Detected:

Page: 6 (4, 5, 6) Files: 78 -to- 85

files: 64

```
78 - F:\CourseFiles\Single2/Course01/Lesson01/pics/aground.xml
79 - F:\CourseFiles\Single2/Course01/Lesson01/pics/aground.jpg
80 - F:\CourseFiles\Single2/Course01/Lesson01/pics/distress_sigs.xml
81 - F:\CourseFiles\Single2/Course01/Lesson01/pics/distress_sigs.jpg
82 - F:\CourseFiles\Single2/Course01/Lesson01/pics/distress_sigs_add.xml
83 - F:\CourseFiles\Single2/Course01/Lesson01/pics/distress_sigs_add.jpg
84 - F:\CourseFiles\Single2/Course01/Lesson01/pics/nav_aids.xml
85 - F:\CourseFiles\Single2/Course01/Lesson01/pics/nav_aids.jpg
```

Undetected:

Page: 3 (1, 2, 3) Files: 23 -to- 23

files: 21

```
23-(RESOURCE) F:\CourseFiles\Single2/Course01/Lesson01/sco07.htm
```

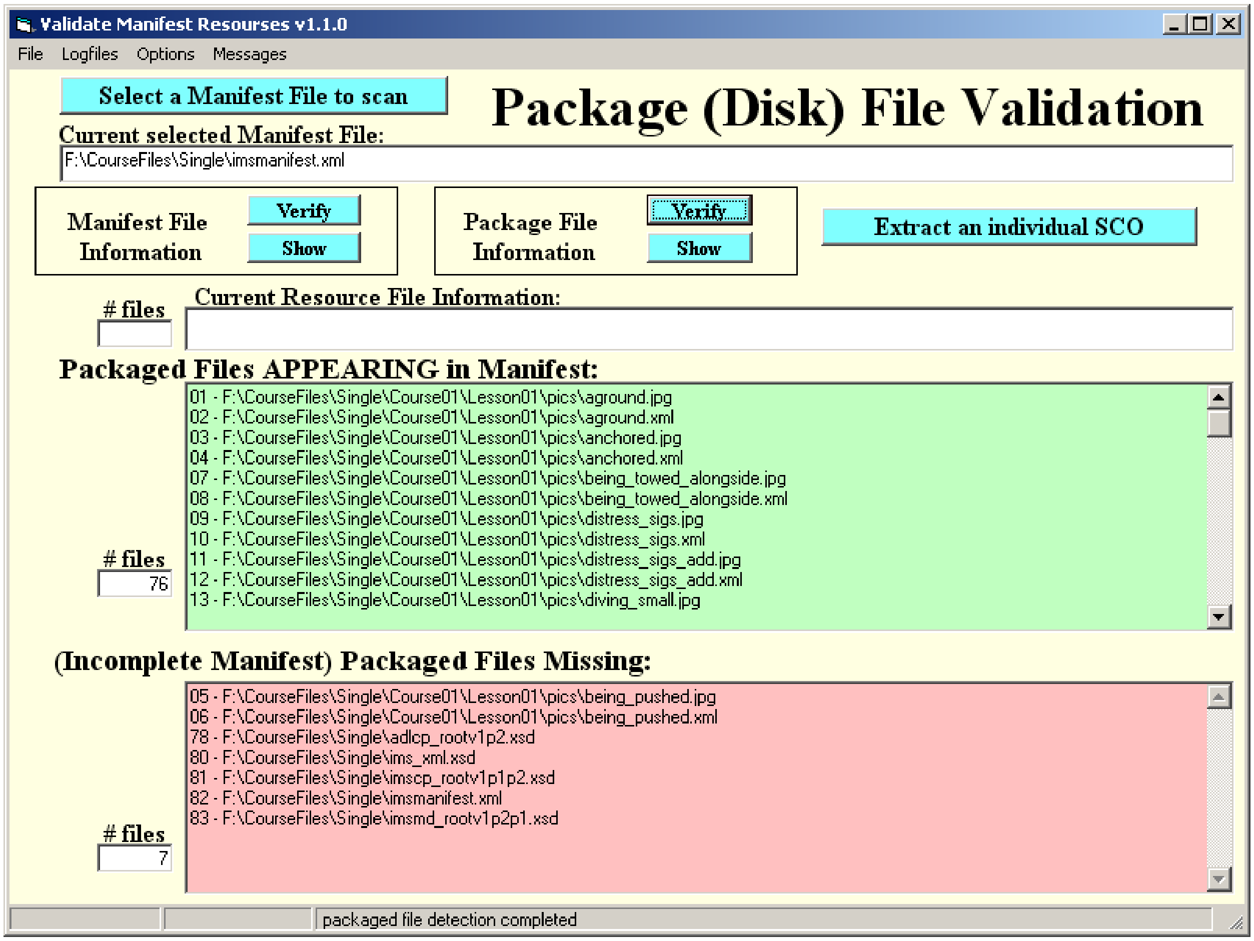
manifest resource validation completed

Figure G4

Resources and metadata files that are listed in the RED box were not detected in the root folder and subfolders, meaning they are either not valid or cannot be found.

During Manifest File Validation, two log files are created: "manifest_files_found.html" and "manifest_files_missing.html". These files are placed in a date and time stamped sub-directory (e.g. Log_20041214094121) to the Resource Validator home directory, "/Testing_Tools/Resource_Validator/".

7. Validate the packaged files by clicking the "Verify" button in the "Package File Information" box. The status bar at the bottom of the window will indicate completion. After verifying the Package files the Resource Validator window will appear as below:


Validate Manifest Resourses v1.1.0
File
Logfiles
Options
Messages
Select a Manifest File to scan
Package (Disk) File Validation
Manifest File Information
Verify
Show
Package File Information
Verify
Show
Extract an individual SCO
Packaged Files APPEARING in Manifest:
(Incomplete Manifest) Packaged Files Missing:

Current selected Manifest File: F:\CourseFiles\Single\imsmanifest.xml

Current Resource File Information:

# files

# files 76

```
01 - F:\CourseFiles\Single\Course01\Lesson01\pics\aground.jpg
02 - F:\CourseFiles\Single\Course01\Lesson01\pics\aground.xml
03 - F:\CourseFiles\Single\Course01\Lesson01\pics\anchored.jpg
04 - F:\CourseFiles\Single\Course01\Lesson01\pics\anchored.xml
07 - F:\CourseFiles\Single\Course01\Lesson01\pics\being_towed_alongside.jpg
08 - F:\CourseFiles\Single\Course01\Lesson01\pics\being_towed_alongside.xml
09 - F:\CourseFiles\Single\Course01\Lesson01\pics\distress_sigs.jpg
10 - F:\CourseFiles\Single\Course01\Lesson01\pics\distress_sigs.xml
11 - F:\CourseFiles\Single\Course01\Lesson01\pics\distress_sigs_add.jpg
12 - F:\CourseFiles\Single\Course01\Lesson01\pics\distress_sigs_add.xml
13 - F:\CourseFiles\Single\Course01\Lesson01\pics\diving_small.jpg
```

# files 7

```
05 - F:\CourseFiles\Single\Course01\Lesson01\pics\being_pushed.jpg
06 - F:\CourseFiles\Single\Course01\Lesson01\pics\being_pushed.xml
78 - F:\CourseFiles\Single\adlcp_rootv1p2.xsd
80 - F:\CourseFiles\Single\ims_xml.xsd
81 - F:\CourseFiles\Single\imscp_rootv1p1p2.xsd
82 - F:\CourseFiles\Single\imsmanifest.xml
83 - F:\CourseFiles\Single\imsmd_rootv1p2p1.xsd
```

packaged file detection completed

Figure G5

Information is provided on the physical files that actually exist in the courseware root folder. Files displayed in the GREEN box are valid files because they exist in the courseware root folder **and** are listed on the manifest. Files displayed in the RED box indicate an "incomplete manifest". These files exist in the courseware file structure but are not listed on the manifest file**. It is assumed that these files are needed by the courseware.** Therefore these unlisted, but necessary, files would cause a tremendous problem when de-aggregating or extracting for reusability.

> NOTE: The Resource Validator does not detect hidden files in the content package. This can cause your file count to be different from PIF file count. Any file that has the file property attribute of "Hidden" will not be displayed. Any file that is required for the courseware should not have the attribute of "Hidden" selected. Any file that is not required for the courseware should not be included in the content package.

NOTE: The Courseware Tester will ignore any of the following files that appear in the RED box:

- imsmanifest.xml
- Any .xsd files
- Any .dtd files

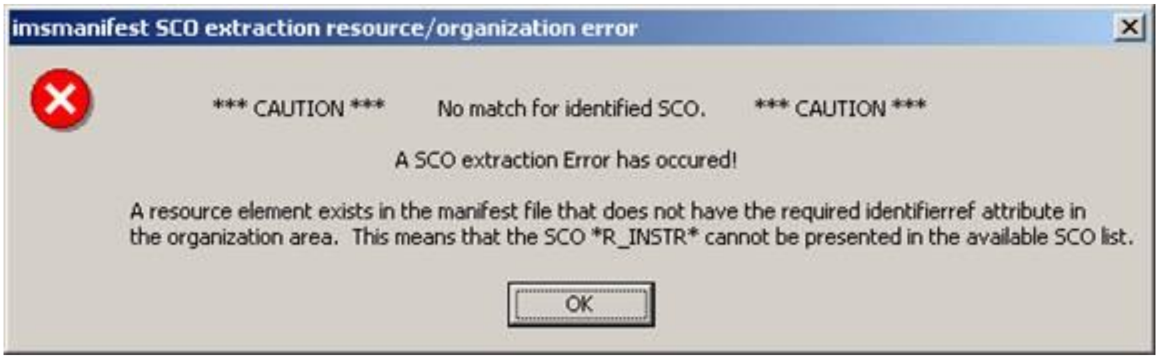
During Package File Validation, two log files are created: "packaged_files_found.html" and "packaged_files_missing.html". These files are placed in the same date and time stamped sub-directory (e.g. Log_20041214094121) to the Resource Validator home directory, "/Testing_Tools/Resource_Validator/", in which the Manifest File Validation log files were placed.

NOTE: Each time the Resource Validator is run, a new date and time stamped sub-directory is created. Examples of these sub-directories are Log_200506214094121, Log_200506214086754, Log_200508214324311, etc.

8. Copy the Resource Validator log files to your "ScormLogFiles" folder.

NOTE: The following error message may appear during manifest file validation. It alerts the Courseware Tester to the fact that a SCO resource on the manifest is not linked to the table of contents. The Army recommends the best practice of having all resources contained on the manifest linked to an activity on the table of contents. This message can be turned off by turning the "Show SCO resource link error" option "Off". The "Show SCO resource link error" option is available under the "Messages" menu bar item.

NOTE: This error message does not impact SCORM conformance.



imsmanifest SCO extraction resource/organization error

*** CAUTION *** No match for identified SCO. *** CAUTION ***

A SCO extraction Error has occured!

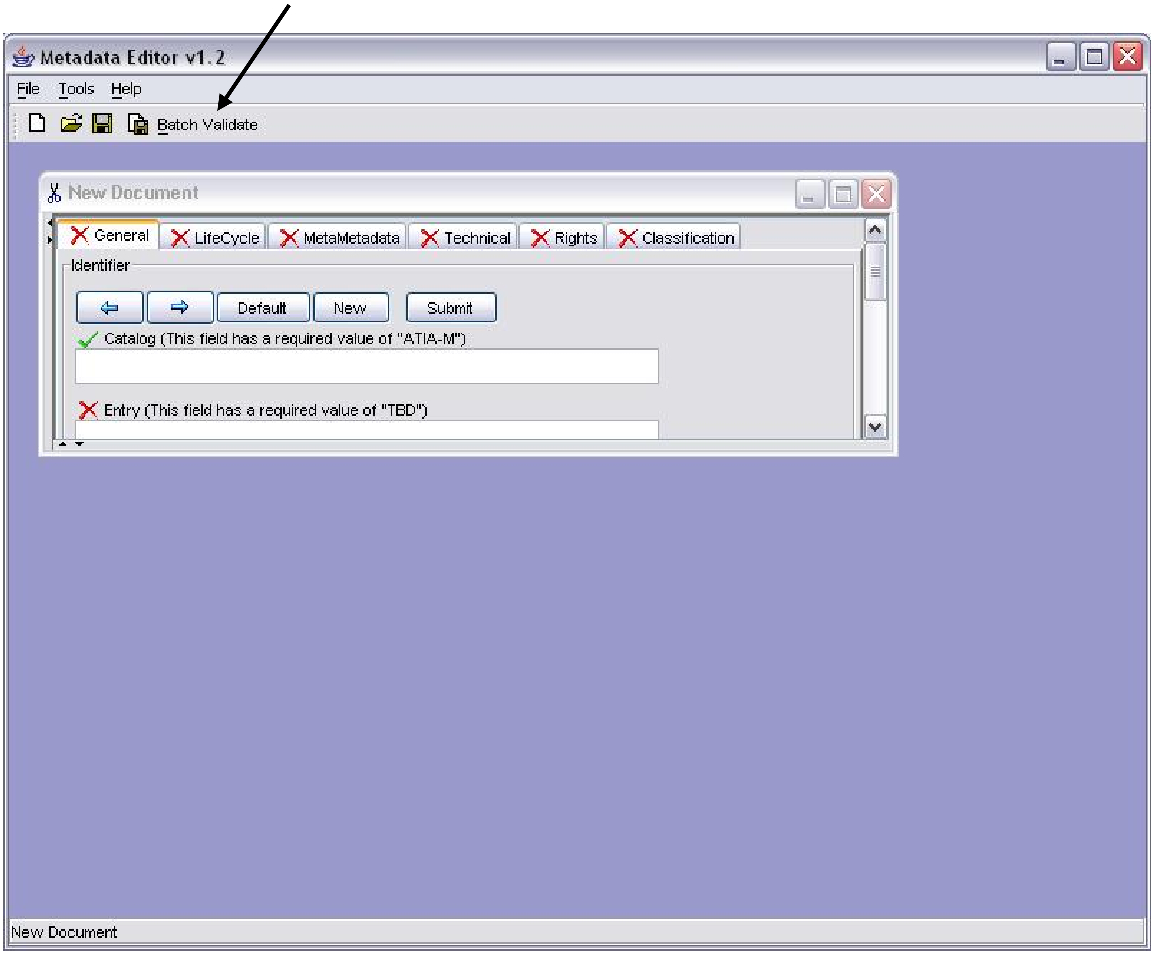
A resource element exists in the manifest file that does not have the required identifierref attribute in the organization area. This means that the SCO *R_INSTR* cannot be presented in the available SCO list.

Figure G6

APPENDIX H – Army Metadata Validation

The Army has required certain metadata elements to be present on all metadata files submitted with the courseware in addition to the SCORM required metadata. This test was developed to determine whether these Army mandatory elements exist on the .xml metadata files.

The Army has requested that all the metadata files be external (in a separate file) to the manifest, although SCORM specifications provide for other options.



✓ Catalog (This field has a required value of "ATIA-M")

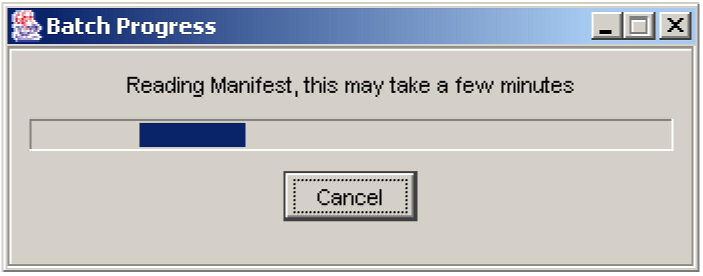
✗ Entry (This field has a required value of "TBD")

Figure H1

1. Click on "Batch Validate".

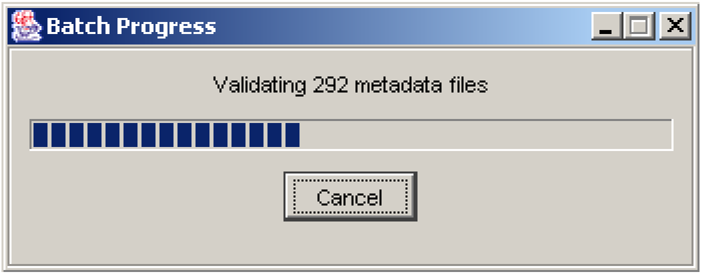
2. Locate and select the manifest file in the content package being tested.

The batch validation process will begin automatically and a progress box will be displayed for the duration of the validation. The length of this period will vary depending on the number of metadata files in the package. The message in the progress box will changed to display the number of metadata files being validated as the process progresses.



Reading Manifest, this may take a few minutes

Figure H2

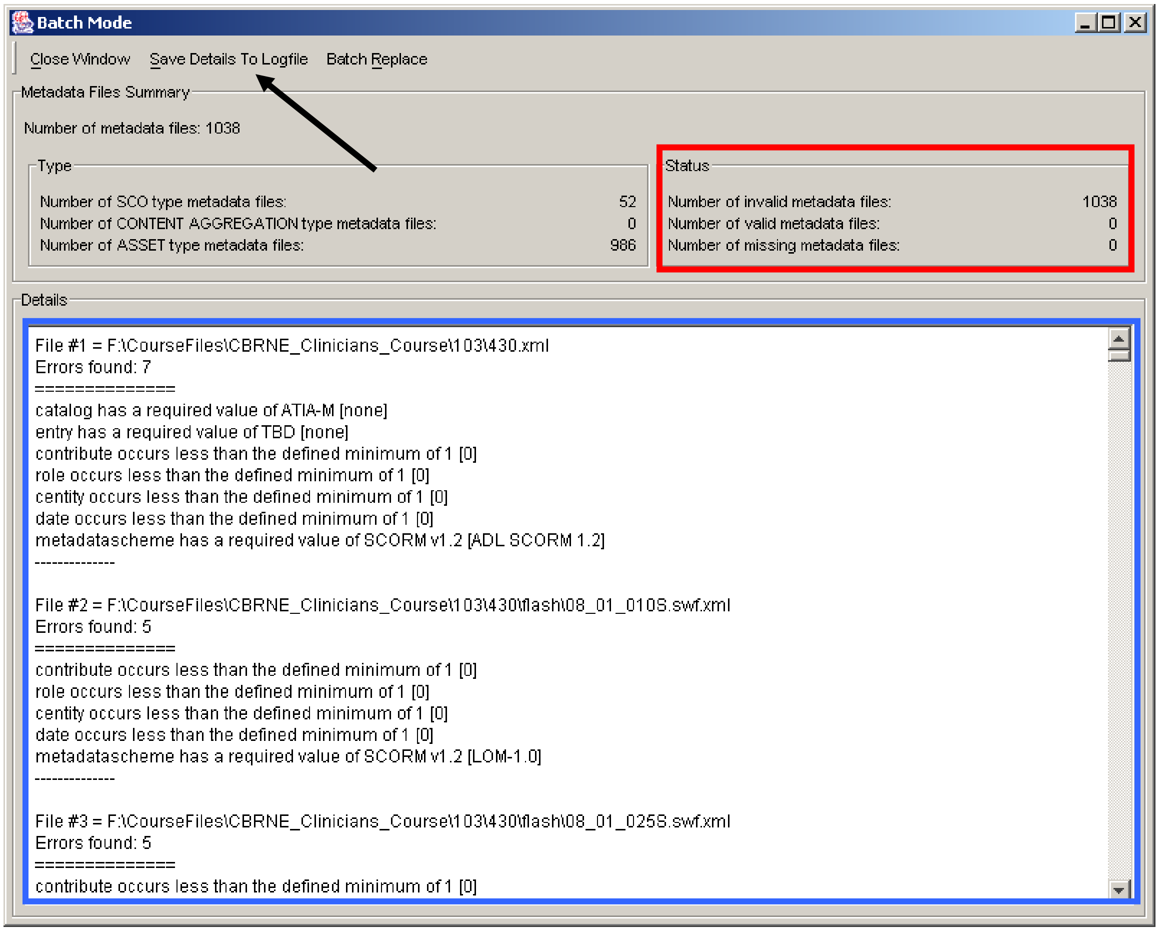


Validating 292 metadata files

Figure H3

At the end of the validation process, a report will automatically be generated and displayed in a separate window where you can review the information.

Invalid metadata files in package



```
Number of metadata files: 1038

Number of SCO type metadata files:                        52
Number of CONTENT AGGREGATION type metadata files:         0
Number of ASSET type metadata files:                     986

Number of invalid metadata files:      1038
Number of valid metadata files:           0
Number of missing metadata files:         0
```

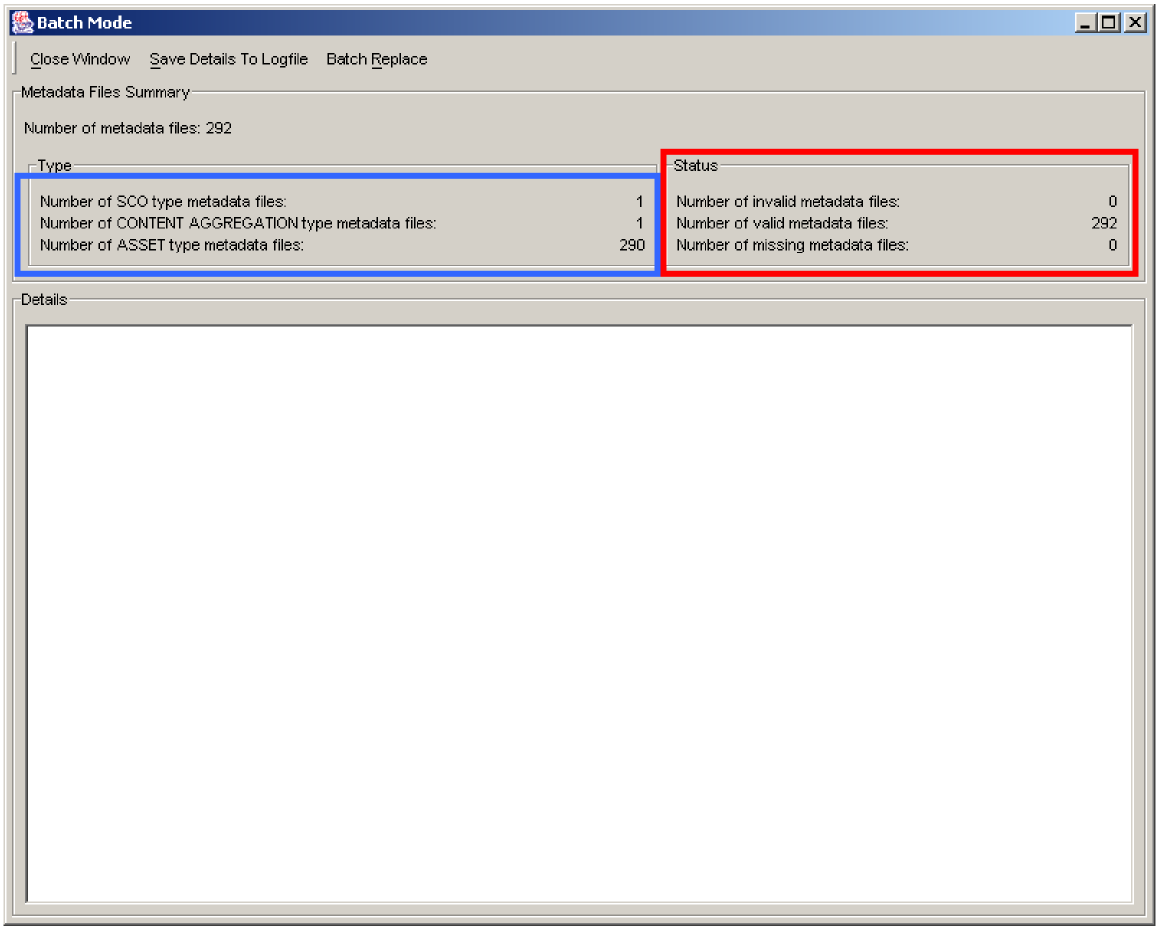
```
File #1 = F:\CourseFiles\CBRNE_Clinicians_Course\103\430.xml
Errors found: 7
==============
catalog has a required value of ATIA-M [none]
entry has a required value of TBD [none]
contribute occurs less than the defined minimum of 1 [0]
role occurs less than the defined minimum of 1 [0]
centity occurs less than the defined minimum of 1 [0]
date occurs less than the defined minimum of 1 [0]
metadatascheme has a required value of SCORM v1.2 [ADL SCORM 1.2]
--------------

File #2 = F:\CourseFiles\CBRNE_Clinicians_Course\103\430\flash\08_01_010S.swf.xml
Errors found: 5
==============
contribute occurs less than the defined minimum of 1 [0]
role occurs less than the defined minimum of 1 [0]
centity occurs less than the defined minimum of 1 [0]
date occurs less than the defined minimum of 1 [0]
metadatascheme has a required value of SCORM v1.2 [LOM-1.0]
--------------

File #3 = F:\CourseFiles\CBRNE_Clinicians_Course\103\430\flash\08_01_025S.swf.xml
Errors found: 5
==============
contribute occurs less than the defined minimum of 1 [0]
```

Figure H4

3. Click on "Save Details To Logfile" to save the report. Name the file "ValidateMD.doc" to save it as a Microsoft Word document. NOTE: The ".doc" must be at the end of the filename because the Metadata Editor does not save the report with a specific file type or in a specific format.

If there are invalid metadata files, as shown above, they will be listed in the "Details" section, highlighted above, along with the number of errors and what the errors are.

No invalid metadata files in package



Number of metadata files: 292

Number of SCO type metadata files:	1
Number of CONTENT AGGREGATION type metadata files:	1
Number of ASSET type metadata files:	290

Number of invalid metadata files:	0
Number of valid metadata files:	292
Number of missing metadata files:	0

Figure H5

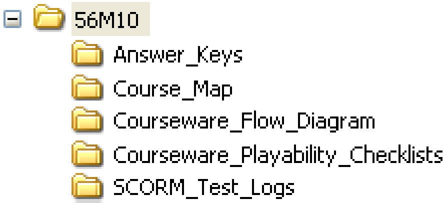
If all the metadata files are valid files, the "Details" section of the report screen will be blank. In the "Status" area of the screen, highlighted above on the right side, the number of invalid metadata files will be 0 and the number of valid metadata files will be the same as the total number of metadata files shown in the "Type" area of the screen, highlighted above on the left side.

4. Close the Batch Mode report window by clicking on "Close Window" at the top of the screen or by clicking on the "X" in the upper right corner.

5. Close the Metadata Editor Program.

APPENDIX I – Sample Log File Structure

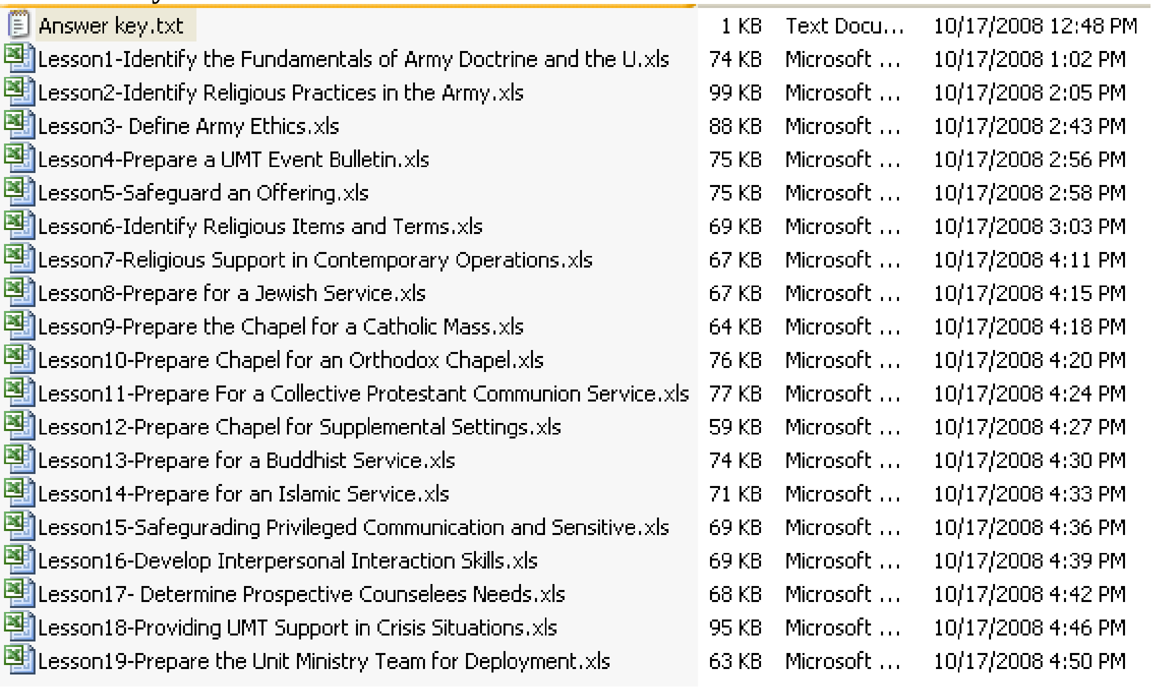
This is an example of the folder structure used for the log files generated from the SCORM and Playability testing.



```
⊟ 56M10
    Answer_Keys
    Course_Map
    Courseware_Flow_Diagram
    Courseware_Playability_Checklists
    SCORM_Test_Logs
```

Figure I-1

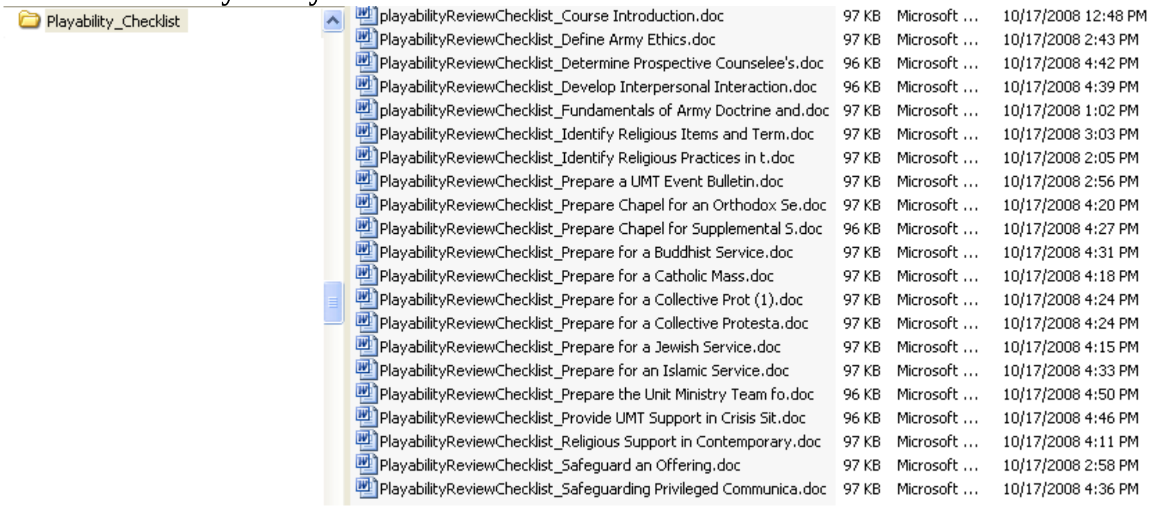
Answer Keys:



Answer key.txt	1 KB	Text Docu...	10/17/2008 12:48 PM
Lesson1-Identify the Fundamentals of Army Doctrine and the U.xls	74 KB	Microsoft ...	10/17/2008 1:02 PM
Lesson2-Identify Religious Practices in the Army.xls	99 KB	Microsoft ...	10/17/2008 2:05 PM
Lesson3- Define Army Ethics.xls	88 KB	Microsoft ...	10/17/2008 2:43 PM
Lesson4-Prepare a UMT Event Bulletin.xls	75 KB	Microsoft ...	10/17/2008 2:56 PM
Lesson5-Safeguard an Offering.xls	75 KB	Microsoft ...	10/17/2008 2:58 PM
Lesson6-Identify Religious Items and Terms.xls	69 KB	Microsoft ...	10/17/2008 3:03 PM
Lesson7-Religious Support in Contemporary Operations.xls	67 KB	Microsoft ...	10/17/2008 4:11 PM
Lesson8-Prepare for a Jewish Service.xls	67 KB	Microsoft ...	10/17/2008 4:15 PM
Lesson9-Prepare the Chapel for a Catholic Mass.xls	64 KB	Microsoft ...	10/17/2008 4:18 PM
Lesson10-Prepare Chapel for an Orthodox Chapel.xls	76 KB	Microsoft ...	10/17/2008 4:20 PM
Lesson11-Prepare For a Collective Protestant Communion Service.xls	77 KB	Microsoft ...	10/17/2008 4:24 PM
Lesson12-Prepare Chapel for Supplemental Settings.xls	59 KB	Microsoft ...	10/17/2008 4:27 PM
Lesson13-Prepare for a Buddhist Service.xls	74 KB	Microsoft ...	10/17/2008 4:30 PM
Lesson14-Prepare for an Islamic Service.xls	71 KB	Microsoft ...	10/17/2008 4:33 PM
Lesson15-Safegurading Privileged Communication and Sensitive.xls	69 KB	Microsoft ...	10/17/2008 4:36 PM
Lesson16-Develop Interpersonal Interaction Skills.xls	69 KB	Microsoft ...	10/17/2008 4:39 PM
Lesson17- Determine Prospective Counselees Needs.xls	68 KB	Microsoft ...	10/17/2008 4:42 PM
Lesson18-Providing UMT Support in Crisis Situations.xls	95 KB	Microsoft ...	10/17/2008 4:46 PM
Lesson19-Prepare the Unit Ministry Team for Deployment.xls	63 KB	Microsoft ...	10/17/2008 4:50 PM

Figure I-2

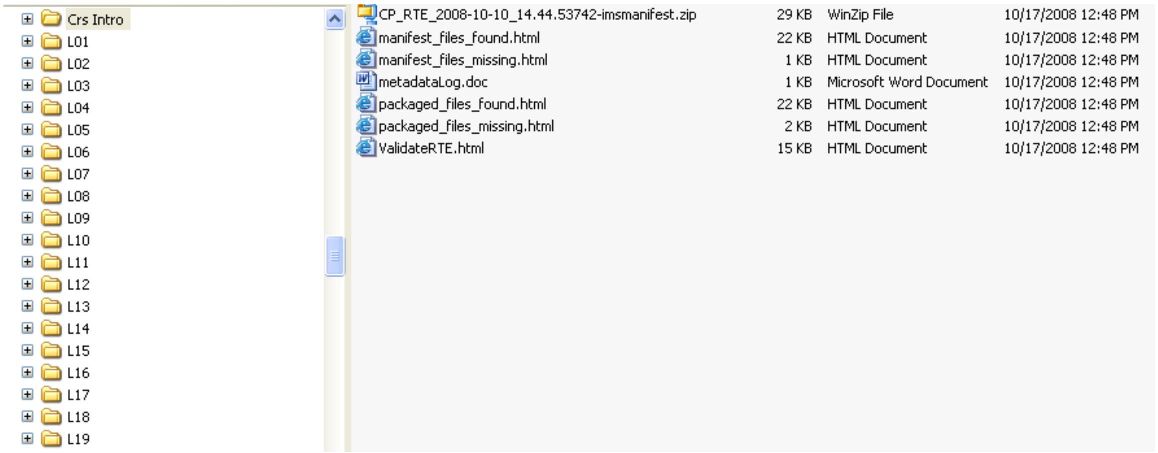
Courseware Playability Checklists:



playabilityReviewChecklist_Course Introduction.doc	97 KB	Microsoft ...	10/17/2008 12:48 PM
PlayabilityReviewChecklist_Define Army Ethics.doc	97 KB	Microsoft ...	10/17/2008 2:43 PM
PlayabilityReviewChecklist_Determine Prospective Counselee's.doc	96 KB	Microsoft ...	10/17/2008 4:42 PM
PlayabilityReviewChecklist_Develop Interpersonal Interaction.doc	96 KB	Microsoft ...	10/17/2008 4:39 PM
playabilityReviewChecklist_Fundamentals of Army Doctrine and.doc	97 KB	Microsoft ...	10/17/2008 1:02 PM
PlayabilityReviewChecklist_Identify Religious Items and Term.doc	97 KB	Microsoft ...	10/17/2008 3:03 PM
PlayabilityReviewChecklist_Identify Religious Practices in t.doc	97 KB	Microsoft ...	10/17/2008 2:05 PM
PlayabilityReviewChecklist_Prepare a UMT Event Bulletin.doc	97 KB	Microsoft ...	10/17/2008 2:56 PM
PlayabilityReviewChecklist_Prepare Chapel for an Orthodox Se.doc	97 KB	Microsoft ...	10/17/2008 4:20 PM
PlayabilityReviewChecklist_Prepare Chapel for Supplemental S.doc	96 KB	Microsoft ...	10/17/2008 4:27 PM
PlayabilityReviewChecklist_Prepare for a Buddhist Service.doc	97 KB	Microsoft ...	10/17/2008 4:31 PM
PlayabilityReviewChecklist_Prepare for a Catholic Mass.doc	97 KB	Microsoft ...	10/17/2008 4:18 PM
PlayabilityReviewChecklist_Prepare for a Collective Prot (1).doc	97 KB	Microsoft ...	10/17/2008 4:24 PM
PlayabilityReviewChecklist_Prepare for a Collective Protesta.doc	97 KB	Microsoft ...	10/17/2008 4:24 PM
PlayabilityReviewChecklist_Prepare for a Jewish Service.doc	97 KB	Microsoft ...	10/17/2008 4:15 PM
PlayabilityReviewChecklist_Prepare for an Islamic Service.doc	97 KB	Microsoft ...	10/17/2008 4:33 PM
PlayabilityReviewChecklist_Prepare the Unit Ministry Team fo.doc	96 KB	Microsoft ...	10/17/2008 4:50 PM
PlayabilityReviewChecklist_Provide UMT Support in Crisis Sit.doc	96 KB	Microsoft ...	10/17/2008 4:46 PM
PlayabilityReviewChecklist_Religious Support in Contemporary.doc	97 KB	Microsoft ...	10/17/2008 4:11 PM
PlayabilityReviewChecklist_Safeguard an Offering.doc	97 KB	Microsoft ...	10/17/2008 2:58 PM
PlayabilityReviewChecklist_Safeguarding Privileged Communica.doc	97 KB	Microsoft ...	10/17/2008 4:36 PM

Figure I-3

SCORM Test Logs:



CP_RTE_2008-10-10_14.44.53742-imsmanifest.zip	29 KB	WinZip File	10/17/2008 12:48 PM
manifest_files_found.html	22 KB	HTML Document	10/17/2008 12:48 PM
manifest_files_missing.html	1 KB	HTML Document	10/17/2008 12:48 PM
metadataLog.doc	1 KB	Microsoft Word Document	10/17/2008 12:48 PM
packaged_files_found.html	22 KB	HTML Document	10/17/2008 12:48 PM
packaged_files_missing.html	2 KB	HTML Document	10/17/2008 12:48 PM
ValidateRTE.html	15 KB	HTML Document	10/17/2008 12:48 PM

Figure I-4